

THE CULTIVATOR.

"TO IMPROVE THE SOIL AND THE MIND."

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THE HAY CROP.

THE hay crop is the most important of any produced in the Northern and New-England states; but a large proportion of our farmers fail to derive the full benefit of it, from the want of proper management. Too many evince a carelessness in reference to making hay, which they would not think of allowing with grain, or any other crop of equal value. The contrast in the condition of the stock of different farmers, through the winter and spring, is very striking. The stock of one man is seen to thrive and even fatten, during the time they are kept on hay, while that of another constantly pines from the time it leaves the pastures, and in spring is poor and feeble. It is not uncommon that this difference is seen where there were equal opportunities for having good hay, and sometimes when the greatest quantity has been fed out to the herd which is in the worst condition.

The difference alluded to, arises chiefly from the quality of the hay; and the quality of the hay depends on the herbage of which it is composed, on the stage in which it is cut, and on the process of making. The amount which would be actually gained by having hay made in the best manner, would be incalculable. It is practicable to have it of such a quality, that a given quantity will produce nearly as many pounds of meat, butter or cheese, as the grass itself would have produced, if it had been eaten in a green state.

We have spoken above, of animals being fattened on hay. This is an idea, which, if generally understood and practiced upon, would be of great benefit to farmers. A few are already aware of its importance, and their practice should constitute examples for others. Many do not seem to realize that hay can be made to serve any other purpose than barely to carry their animals through the winter—to keep them from starvation. Yet they rely on grass for the chief growth of their stock, for their beef and mutton, and dairy products; apparently overlooking the fact that hay is but dried grass, and that, if the drying was effected in the most perfect manner, there would be no loss of nutrient properties.

In deciding on the course to be pursued in curing hay, we should in the first place, understand what are the properties in grass which it is wished to secure, and which afford sustenance to animals. These may be said to be chiefly starch or sugar, gum, and wax, and oil. The following extracts from the report of Dr. THOMSON, in reference to researches and experiments on the food of animals, undertaken by order of the British government, show the importance of these substances in grass, and furnish useful ideas in regard to the general subject:

"When grass first springs above the surface of

the earth, the principal constituent of its blades is water, the amount of solid matter being comparatively trifling; as it rises higher into the day, the deposition of a more indurated form of carbon gradually becomes more considerable; the sugar and soluble matter at first increasing, then gradually diminishing, to give way to the deposition of woody substance.

"If, as we have endeavored to show, the sugar be an important element of the food of animals, then it should be an object with the farmer to cut grass for the purpose of haymaking at that period when the largest amount of this substance is contained in it. This is assuredly at an earlier period of its growth than when it has shot into seed, for it is then that woody matter predominates; a substance totally insoluble in water, and therefore less calculated to serve as food for animals than substances capable of assuming a soluble condition. This is the first point for consideration in the production of hay, since it ought to be the object of the farmer to preserve the hay for winter use, in the condition most resembling the grass in its highest state of perfection. The second consideration in haymaking is to dry the grass under such circumstances as to retain the soluble portion in perfect integrity.

"The great cause of the deterioration of hay, is the water which may be present, either from the incomplete removal of the natural amount of water in the grass by drying, or by the absorption of this fluid from the atmosphere. Water when existing in hay from either of these sources, will induce fermentation, a process by which one of the most important constituents of the grass, viz., the sugar, will be destroyed. The action necessary for decomposing the sugar, is induced by the presence of the albuminous matter of the grass; the elements of the sugar are made to re-act on each other in the moist state in which they exist, in consequence of the presence of the water and oil, and are converted into alcohol and carbonic acid.

"That alcohol is produced in a heated haystack, in many cases, may be detected by the similarity of the odor disengaged to that perceptible in a brewery. We use this comparison because it has been more than once suggested to us by agriculturists.

"The amount of soluble matter taken up by cold water is, according to actual trials, as much as five per cent., or a third of the whole soluble matter in hay. We may therefore form some notion of the injury liable to be produced by every shower of rain which drenches the fields during hay harvest. It is not only, however, the loss which it sustains in regard to the sugar and soluble salts, that renders hay so much less acceptable than grass to the appetite of cattle. The bleaching which it undergoes in the sun, deprives it of the only peculiarity which distinguishes the one form of fodder from the other; grass

deprived of its green coloring matter, presents exactly the appearance of straw, so that hay ought to be termed grass straw. It is obvious from the experiments made, that the operation of haymaking, as usually conducted, has a tendency to remove a great proportion of the wax in the grass. Thus it was found that rye-grass contained 2.01 per cent. of wax. Now as $387\frac{1}{2}$ parts of rye-grass are equivalent to 100 parts of hay, and as $387\frac{1}{2}$ parts of grass contain 7.78 parts of wax, it is obvious that 100 parts of hay should contain the same amount of wax; but by experiment it was found that 200 grains of hay contained 4 grains of wax, which is equivalent to 2 per cent. almost exactly the amount contained in grass. Hence it appears that no less than 5.78 grains of wax have disappeared during the haymaking process. The whitening process which the grass undergoes in drying renders it apparent that the green coloring matter has undergone change; but that it should have been actually removed to such an extent, or at least have become insoluble in ether, is a result which could scarcely have been anticipated without actual experiment."

The farmer may not be able to adopt in general practice, a system of curing hay which would *entirely* prevent the loss of some of its valuable qualities; but experience proves that a system which approximates to this, is perfectly feasible in this country. The practice of all who make the best of hay, agrees as to general principles. We have alluded to the fattening of stock on hay, and in establishing a criterion for the quality of hay, we think it would be fair to estimate it in proportion to its value for this purpose. It might be objected to this, perhaps, that the properties which would most promote the secretion of fat, might not impart the greatest degree of muscular strength; but it should be remembered that severe exercise is not required of the bulk of the farmer's stock, and in reference to work horses and oxen, the requisite strengthening principle may be supplied through other food.

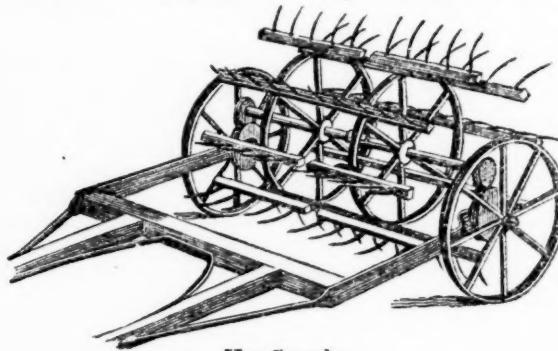
The finer species of grasses, such as blue-grass, (*Poa pratensis*), red-top (*Agrostis*), and a little sprinkling of white and red clover, produce the best hay. Timothy (*Phleum pratense*), is in considerable repute for hay in some sections, and it makes a profitable hay for exportation, on account of its large yield, but it is less relished by stock, (except horses,) than the above kinds. It seems to be admitted by all who have had experience with hay cut at different stages, that it should be cut before it is past bloom. Dr. THOMSON has well said that "it ought to be the object of the farmer to preserve the hay in the condition most resembling grass in its highest perfection," and that its point of perfection "is at an earlier period of its growth than when it has shot into seed." If it does not fall down, it should be allowed to come into full flower; but if it lodges or cripples it will soon sour, and if the crop is very heavy will rot, and the fermentation which takes place, will, more or less, destroy the roots. Hence lodged grass should always be cut without delay, except where the lodging occurs only in trifling patches, and in parts of the field not easy of access. If the grass is cut at the stage mentioned, there will be a vigorous second growth, which on rich land will afford a good autumn crop, for mowing; or it may be fed off by stock, as best suits the wants of the farmer. The early cutting also favors the permanency of the sward; the vitality of the grass is not exhausted, as it would be by the formation of seed.

The practice of the best haymakers, is to mow the grass closely to the ground, to spread the swaths

evenly and lightly, as soon as the dew is fairly off, and the outside of the swath somewhat dried. Rake and cock the hay before sunset. If the weather has been fair and drying the first day, and is so the next, the curing may be so well completed in the two days that it will do to go into the barn or stack, unless there is a very large burden, or it is in a very green state. The cocks should be opened on the second day after the ground has become dried and warmed, and the hay should be thoroughly shaken and left so light and open that the air will immediately strike through it; and it will generally be necessary to turn it in the middle of the day to ensure its perfect dryness. Should the weather on the morning of the second day appear unfavorable, the hay may stand without injury till the third day; or if it should be spread out on the second day, and should fail of being sufficiently dried, it should again be put in cocks, and the drying completed the first favorable day. In putting it in the barn, an advantage may be derived by letting it remain on the wagons, when practicable, over night—especially such loads as are least dried. The partial heating which it will undergo in the load, will greatly aid its curing, and the tendency to fermentation will be broken up in unloading, by its exposure to the air, and it will afterwards remain in an unchangeable state, so long as kept dry.

Clover makes good hay if cut at the right time and rightly managed. The writer, after having tried various modes of making this kind of hay, gives the preference to making it chiefly in cocks. It can be made in this way with less expense of labor, and the hay is superior in quality to that produced by any other mode. The medium, or what is commonly called the southern clover, is the best for hay, as its stems are finer than the larger, or northern kind. It is best to cut it when the greatest number of heads are in full bloom, and as they do not all bloom at once, the first which come out will, of course, be turned before the majority will have reached that stage.

When the swaths are wilted, they may be pitched into cocks with forks, taking care to lay up the forkfulls in such a way that the hay will stand the weather,



Hay-Spreader.

which is easily done with a little care. It may be put in such cocks as will make forty to fifty pounds each, after it is dried. If carefully put up, it may stand in this situation for several days without injury. It should be examined from day to day to see how the process of curing advances, and when its appearance and the prospect of fair weather indicate that the curing can be completed in one day, the cocks should be turned over so as to expose the bottom to the sun, and they should be lightened up a little, in order that all the dampness shall be driven off. It should be handled carefully in loading, lest the driest portion should be broken up, and the heads and leaves more or less wasted. Clover that is made in this way is not liable to heat in

the mow or stack, and from the leaves and heads being saved, and the whole being cured in the most perfect manner, it is much relished by all animals. When used, it is best to pass it through the cutting machine, as it can be fed with much less waste when cut up, than when distributed to stock in a long state.

The cut herewith given represents a machine for spreading hay—or what is called in England a hay-spreader. It has been used in that country for several years, and we presume would be highly useful in many sections here. It consists chiefly of a frame and wheels, resembling a low, one-horse cart; between the wheels, a set of horizontal *rakes* are made to revolve rapidly, their motion being in a direction opposite to that of the wheels. This motion is given from the wheels, through cog wheels, to the axle on which these rakes turn. It is obvious that the wheels must be attached to the frame, without any axle passing between them, as that would interfere with the motion of the rakes, the axle of which is nearly a foot higher than the hubs of the wheel. The teeth of these rakes, by their rapid motion, strike the hay in the swath, lift it upwards, and scatter it behind the machine.

The *rakes* consist of light pieces of timber, five and a-half feet long, (so as to spread two swaths at once,) to which are attached the iron teeth, which are spikes seven inches long, fastened loosely so as to swing freely, and to fall back when they strike stones or other obstructions. Centrifugal force keeps them straight at other times. In long hay, a very thin, broad cylinder, incasing the framework which supports the rakes, is necessary to prevent clogging. As the hay frequently winds upon the hubs of the wheels, a covering upon them like the mud-protector of a carriage, would be of value.

The Reviewer.

Poultry and Poultry Books.

THE AMERICAN POULTRY-YARD; comprising the origin, history and description of the different Breeds of Poultry; with complete directions for their breeding, crossing, rearing, fattening, and preparation for market; including specific directions for Caponising Fowls, and for the treatment of the principal diseases to which they are subject; drawn from authentic sources and personal observation; illustrated with numerous engravings. By D. J. BROWNE. New-York: 1850.

THE above title informs us that the contents of the book are "drawn from authentic sources, and personal observation;" a statement which some persons may not dispute, though many readers would doubtless have been gratified if some marks or directions had been given, which should have indicated the particular parts to be credited to each of the sources named. True, Mr. Browne informs us, in his prefatory address, that—"In order that he may not be accused of the *reproach* [?] of 'strutting in borrowed plumes,' he has the candor to confess that he has made a free use of the labors of Pliny, Columella, Cuba, Aldrovandi, Mascall, Reaumur, Mowbray, Parmentier, Flourens, W. B. Dickson, J. J. Nolan, W. C. L. Martin, and Rev. E. S. Dixon, without giving them, in numerous instances, such credit as the punctilious critic would seem to demand."

From this imposing array of ancient and modern authors, the reader will doubtless be deeply impressed with the vastness of Mr. Browne's researches, and the immense labor he has incurred in thus embodying the knowledge of ages, on the subject of poultry. In the "free use" which he has made of the writings of these authors, he says he has some-

times had occasion to "change the language," in order to "Americanize the subject," &c., though he still claims as *original*, "much of the matter and several of the illustrations." If, under these circumstances, confusion has ensued in regard to the rightful ownership of "plumes," it has been owing to the difficulty of recognition—the heterogeneous mixture of feathers rendering it impracticable to say, in all cases, to what bird they belonged.

In his arrangement of varieties, Mr. Browne takes the serrated upright comb as the typical distinction of the genus, and as the Spanish fowl has this feature more developed than any other breed, he selects that as the general representative, placing it at the head of the list. Next to this he places the Dorking fowl. Let it be borne in mind that the *basis* of this arrangement, is the "*serrated upright comb*," and upon this basis, he ranks the Dorking fowl next to that taken as the type! The consistency of this can be judged of by those acquainted with the latter variety. Certainly, there are few breeds which have less affinity with the Spanish than the Dorking, in regard to the *comb*. Even Mr. Browne himself tells us that the Dorkings have "single, double, or large, flat, rose-like combs." The stock of Mr. L. F. Allen, which is referred to by Mr. Browne, has very large rose combs, in many instances, and so have many of the best Dorkings in this country, whether imported or bred here. Even the figures which Mr. Browne gives of the breed, show the double comb.

In Mr. Browne's account of the Dorking fowl, we have an example of what is probably meant by "change of language to *Americanize* the subject." In Mr. Martin's work, before referred to, is a description of this variety, as he had found it in a visit personally made to Dorking. The following extracts, placed in juxtaposition, show with how little "change of language" Mr. Browne was in this instance, enabled to "Americanize his subject:"

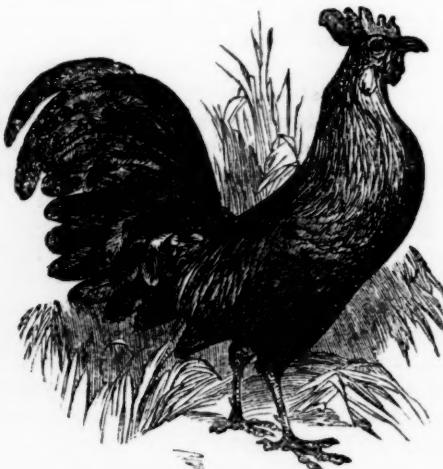
Extract from Mr. Martin.

"During a recent visit of some weeks to Dorking, though we visited the market regularly, and explored the country round, on one or two occasions only did we meet with pure white birds. In all however, more or less white prevailed; but the cloudings and markings of the plumage were unlimited. Many were, as we observed, marked with bands or bars of ashy gray, running into each other at their paler margins. Some had the hackles of the neck white with a tinge of yellow, and the body of a darker or brownish red color, intermixed irregularly with white."

Extract from Mr. Browne.

"During all my rambles, in various parts of the country, only on one or two occasions did I meet with pure white birds. In all, however, as far as my knowledge extended, when pure-blooded, more or less white prevailed; but the cloudings and markings of the plumage were unlimited. Many were marked with bands or bars of ashy gray, running into each other at their paler margins. Some had the hackles of the neck white with a tinge of a darker or brownish red, intermixed irregularly with white."

The attempt to prove the great antiquity of the Dorking breed, whether white or "speckled," by reference to Pliny and Columella, will probably pass current with some, but the fallacy of the reasoning will be at once detected by those who have much acquaintance with the subject. The idea seems to be adhered to that the five-toed fowls described by those writers, must have been Dorkings, merely because they had five toes. Hence Mr. Browne calls the Dorkings a "race." He says—"This race has the peculiarity in having a supernumerary toe on each foot." But the extra toe is no distinction of "race," nor is it peculiar to the Dorkings. It is not unfrequently seen among some of the smallest Bantams, and is occasionally met with among the crested, or Polish varieties of fowls. E. S. Dixon, in the late edition of his work, states that it frequently appears in the Cochin-China, from which he infers the near affinity of the Dorking with that fowl. It is a freak which is not referable

Fig. 173—*Javanese Jungle Fowl.*

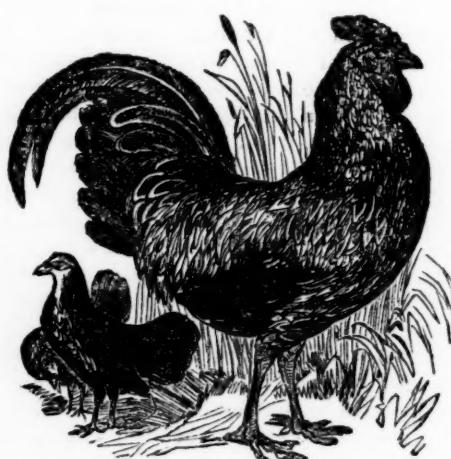
to any race, or to fowls of any special affinities. Its appearance among the fowls of Surrey and Sussex (England,) does not appear to be of remote date. I do not find it spoken of by any writer previous to Mowbray* whose work was first published about the close of the last century. Arthur Young, in his "*Survey of Sussex*," written soon after the commencement of this century, speaks of the Dorkings. He says—"The five-clawed breed have been considered the best; this, however, is a great mistake, and took its origin in some fowls with this peculiarity that happened to be very large and fine. It is a bastard breed."

I see no reason to doubt that it is an accidental variety of the fowls kept in Surrey and Sussex fifty years ago. In regard to the latter, Mr. Young adds to the remarks already quoted, the following—"The fowls of the Sussex breed, used at the table of Lord Egremont, have frequently astonished the company by their size." Richardson says "the Sussex is but an improved variety of the Dorking, similar in shape and general character, usually of a brown color, but possessing the advantage of wanting the fifth toe;" and in his article before referred to, written for the *Irish Agricultural and Industrial Journal*, he says—"The Sussex has latterly, to a great degree, superceded the Dorking in popular estimation," &c. Instead of saying that "the Sussex is a variety of the Dorking," would it not have been more in accordance with facts, to have said the Dorking is a variety of the Sussex?

But to return to Mr. Browne's classification. We have seen that he reckons the Dorking second to the Spanish, on the ground of the "serrated upright comb." Next to the Dorking, or the third remove from the Spanish, he places the Cochin China fowl, and this is represented by a figure, in which the comb is upright and *deeply serrated*—showing, on the basis of his arrangement, a much greater resemblance to the type than the Dorking, which takes precedence over it in the list.

Next to the Cochin-China, is placed the "Kulm, or Great Malay fowl," and in the figure accompanying the description, the comb is neither upright nor serrated; but is described as "*low, thick, destitute of serrations*," &c. Yet the Game fowl, which is placed the *sixth* remove from the type, has the "serrated upright comb," strikingly developed.

He copies (without credit) a part of Dixon's account of the "Pheasant Malay fowl," which it

Fig. 174—*Sonnerat's Jungle Fowl.*

is said "may claim the sad pre-eminence of having given rise to more disputes than any bird of its tribe, always excepting the game-cock." This "Pheasant-Malay," he asserts, has occasioned the idea that certain fowls are a cross of the pheasant. But whether the idea in regard to such a cross be sound or not, his own reasoning shows that this "Pheasant-Malay fowl" did not give rise to it. He takes his description, which he considers very "graphic," from "a late English writer;" and this writer says—"I have a strong suspicion, from various peculiarities, that they are of comparatively recent introduction into this country, [England.] Baker, of London and Chelsea, (one of the best fancy dealers,) told me they were a breed from Calcutta." But the idea of fowls being produced by a cross of the pheasant, is by no means "*recent*"; it has been held for a long time, and is mentioned by nearly all English writers on poultry. Upon the whole, it seems probable that this "Pheasant-Malay" fowl is a variety found in the East Indies, which bears a strong resemblance to the English game-fowl. Specimens of stock derived from Sumatra, corresponding, mainly, to Dixon's description of the Pheasant-Malay, were exhibited at the poultry-show at Boston, last fall, and are still bred in the vicinity of that city. I am unable to say, from what I have seen, whether they are an aboriginal breed.

But how is Mr. Browne to be understood? He tells us, in the first place, that those "Pheasant-Malays" *gave rise* to the idea that there were fowls derived from a cross with the pheasant, though they, (the "Pheasant Malays,") he says, have no more of the blood of the pheasant, "than the Cochin-China or ostrich fowl," has of the blood of the ostrich; and yet in the very next sentence, he tells us that "hybrid birds, produced between the pheasant and common fowl, are of frequent occurrence!" These hybrids, he continues, "are considered unproductive among themselves, but when paired with the true pheasant or the fowl, the case is different;" that is, they will breed with the fowl or with the pheasant.

Now to what does all this amount? First, we are told that the idea of fowls being part pheasant, is all a mistake—the idea has no foundation, but *took its rise* from fowls that have no affinity with the pheasant; second, it is admitted that half-bred pheasant fowls "*are of frequent occurrence*," and third, that they are *capable of breeding* when "paired with the true pheasant, or with the fowl!" Thus making a solecism, scarcely equalled by the plea of the Irish pettifogger, who defended his cli-

* It is proper to remark, that the name of Mowbray is believed to be fictitious—the work referred to having been written, as some assert, by John Lawrence, author of several books on cattle and horses, published forty to fifty years ago. See prefaces to Dickson's and Boswell's works on poultry.

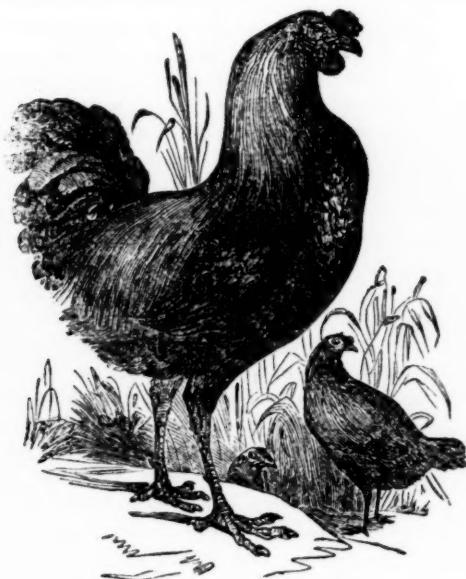


Fig. 175—Great Malay Fowl.

ent, first, on the ground that he *never borrowed* plaintiff's kettle; second, that it *was broke when he borrowed it*; and third, that it *was not broke when he carried it home*.

Suppose some of those half-bred pheasant fowls, which are of such "frequent occurrence," should be "paired with the pheasant or with the fowl," and an offspring should be produced—a result which Mr. Browne admits has been realised. The progeny from the second cross with the fowl, would be a fourth pheasant, and that from a cross with the other parent would be three-fourths pheasant. There are abundant means of showing that this *has been done*, to say nothing of Mr. B.'s tacit admission of the fact, and is it unreasonable that fowls so bred should be called pheasant fowls? On the contrary, is it not much more proper to apply the term pheasant to such fowls, than to those which it is acknowledged have no more blood of the pheasant, than the Cochin-China fowl has of the ostrich?

With another example of Mr. Browne's mode of "changing language," we will leave these Pheasant Malays. Dixon speaks of the avidity with which these fowls are purchased in England; Mr. Browne speaks on the same subject, and the language of the respective authors, is given in the following extracts:

Extract from Mr. Dixon.

"—the buyer readily pays his money down, thinking he has got a nice fowl and a taste of pheasant into the bargain—something like the Frenchman, who was delighted at breakfast, on finding he was eating a little chicken, when he had only paid for an egg."

Extract from Mr. Browne.

"—the buyer readily pays his money down, thinking that he has got a nice fowl, and a taste of pheasant into the bargain—something like the Paddy, who was delighted at breakfast, on finding he was 'ating a little hen,' when he had only paid for an egg."

We come now to the Game fowl, placed by Mr. Browne, ostensibly on the basis of the "serrated upright comb," the sixth variety from the type; yet in none of the varieties thus far named, except the Spanish, is the comb so uniformly single, serrated and upright, as in the Game.

In regard to the origin and affinities of the game-fowl, Mr. Browne adopts the singular language of Dixon, viz., that "it approaches nearer to the Malay and Pheasant-Malay, than to any other variety of fowl." That the game-fowl bears a resemblance to what is called the "Pheasant-Malay," is, as before intimated, not unlikely; but it is plain from Dixon's work—notwithstanding this strange compounding of terms—that the Malay and Pheasant-Malay do not resemble each other. Mr. Dixon

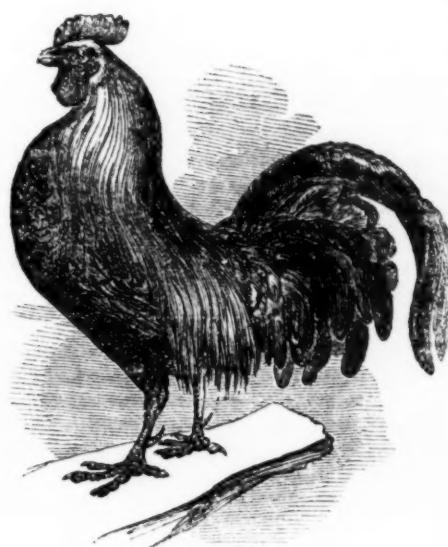


Fig. 175—Game Fowl.

gives a communication from Mr. A. Whitaker, whom he considers "accurate authority," in which it is said—"They [the Pheasant-Malays] have no resemblance to the Malay, except that the cocks are rather high on the leg, the hens being the reverse."* The absurdity of the idea of the near resemblance of the game-fowl with the breed known as the Malay, and which Mr. Browne figures as such, is obvious to those who are well acquainted with the different varieties of fowls, and may be apparent to all, by a comparison of the accompanying cuts.

Fig. 173, is the Javanese Jungle fowl, (*Gallus bankiva* of Temminck;) fig 174, Sonnerat's Jungle fowl, (*G. sonneratii*, Temm.) fig 175 Great Malay fowl, (*G. giganteus*, Temm.,) (and is the same figure that Mr. Browne gives for the Malay;) fig 176 Game fowl. The three first of these are given as representations of fowls still found wild in the southern part of the Asiatic continent, or in the islands of Sumatra, Java, &c. They are considered by naturalists distinct races, though capable of interbreeding and producing a mixed stock which may be perpetuated. There are some other wild stocks, which it is not important to notice here. But if the origin of the game fowl is to be referred to one of these, the question of course arises, with which has it the greatest affinity of characters? Without occupying space with particular descriptions, it will be seen, merely by reference to the figures, that it must have required a "fertile imagination" to discover that the game cock "approaches nearer to the Malay than to any other variety of fowl!" As well might it be said that the fiery and swift-footed Arabian courser, "approaches nearer" to the huge and slow-moving Flemish or English draught-horse, than to any other variety!"

The "free use" which Mr. Browne makes of the writings of others, is exemplified more or less, in all parts of the book, but in this chapter on the game fowl he has even saved himself the trouble of "changing the language"—having copied *verbatim* to a large extent, from the works of Martin and Dixon, with no mark of credit whatever; though he has condescended, in the same chapter, to attach quotation marks to extracts from *anonymous* writers.

As we proceed, we find Mr. Browne describes what is commonly known in this country as the Bol-

* Dixon's Ornamental and Domestic Poultry p. 312

ton Grey or Creole, under the head of "Golden and Silver Hamburgh fowl," although he afterwards describes two *top-knot* varieties under the names of "Golden Spangled Hamburgh" and "Silver Spangled Hamburgh"—making but a trifling variation in the names of very different fowls—the head of the one being surmounted by a large crown of feathers, and that of the other entirely destitute of this striking appendage.

The next is the Cuckoo fowl, the description of which is taken from Dixon. It appears to be nothing more than what is here known as the Dominique, though this is noticed separately in another part of Mr. Browne's book.

He makes seven varieties and sub-varieties of the crested fowl: viz., "the Lark-crested fowl," "the Golden Spangled Hamburgh," "the Silver Spangled Hamburgh," "the Black Polish," "the Black topped White Polish," (now supposed to be extinct,) "the Golden Polands," and "the Silver Polands."

The Bantams are separated into five divisions: viz., "the Yellow or Nankin Bantams," "the Sebright Bantams," "the Black Bantams," "the White Bantams," and "Creepers." It is impossible to see the propriety of some of these distinctions, inasmuch as a single pair of either the yellow, black or white, will produce all these (so-called) varieties. An instance is known to the writer, where a pair of brown colored birds, whose parents were imported from Java, produced a progeny the first season of breeding, which showed all these different colors, as well as the red and spangled.

Mr. Browne finishes his arrangement, with a chapter on "Mongrels and Barn-Door Fowls," in which he describes "the Jago," "the Shanghaie Cochin-China," [?] "the Plymouth-Rock," "the Jersey Blue," "the Ostrich," "the Booby," "the Bucks county," "the Dominique or Dominica," and "the Blue-Dun" fowls.

In the remainder of the book, Mr. Browne has embodied much that is valuable, taken chiefly from the works of Martin, Dixon, and authors quoted by them—adhering generally to the rule adopted in the outset, of "changing the language" sufficiently to "Americanize the subject." OBSERVER.

IRRIGATION.

EDS. CULTIVATOR—I have long been aware of the importance of fertilizing land by means of water, and what can be more rational, when by chemical analysis we find that the water of many streams, contains a large quantity both in suspension and in solution of animal, vegetable and mineral substances, and also that it is a compound, even in its purest state, of hydrogen, oxygen, carbonic acid, &c.? By the same analysis, also, we find that the principal ingredients for the support of plants, are these identical substances. Here, then, the wonderful effect of irrigation upon the soil, is at once accounted for; and with regard to this wonderful effect, I will here refer the reader to Brewster's Edinburgh Encyclopædia, and especially to the articles under the heads of Irrigation—Agriculture—France. It has long been practiced to a greater or less extent, in every habitable country on the globe, between the 60th degrees of north and south latitude. The Hon. Daniel Webster, on witnessing in England, the great effects of irrigation, made particular inquiry as to the rules, results, &c., which, with his usual clearness, he communicates to his agricultural friends after his return home.

If in the cool and moist climate of England, three

crops of hay and grass are obtained in one season, and their irrigated lands rent for double the price of other lands, why may not the American farmer realize at least equal advantages in a more favorable climate? Indeed, the farmer who has the power of fertilizing a portion of his land with water, has a treasure in his possession, and he who neglects to avail himself of its benefits, is certainly slow in the comprehension of his interest. That water operates as a powerful fertilizer to the soil, when made to flow over it, is fully proved by the fact that on up-land which has been irrigated and used for pasture or meadow, the water being afterwards withheld, and the land subjected to the plow, an unusual heavy crop of grain is always the result—far exceeding the product of other parts of the same field not irrigated. Thus water, when applied to grass, on lands adapted to grain, performs the double office of increasing the growth of the former, and at the same time imparting a durable fertility to the soil for the benefit of the succeeding crop of grain. Rye, however, even when growing, is much benefited by slight irrigation after the appearance of the blossom, and Indian corn can scarcely be watered too much after the appearance of the silk and tassel, and a luxuriant growth will be the result. It is probably the hayfield, however, from which the farmer may derive the greatest advantage from irrigation. A meadow, for instance, which will produce 3 to 4 tons of first quality of hay per acre (which has been effected by this means, even as far north as Vermont,) for an unlimited term of years, without the expense of any other manure; but in case he consumes his hay on his farm, contributing largely towards his stock of manure for other fields—such a meadow may well be regarded by its owner as of great value. Indeed, let a comparison be made with regard to the net profit, with almost any other crops obtained from an equal quantity of land, for a term of years, and it will be found that the amount of labor and other items of cost required to put the crop into a marketable state, will throw a large balance in favor of the irrigated meadow. It therefore becomes a question to the farmer who possesses the means of irrigation, whether it would not promote his interest to set apart his irrigated lands, even if suitable for grain, as permanent meadow, and exempt them from regular rotation.

Objections have been made, by some, that the hay of irrigated meadows is less nutritive and less palatable to cattle than other hay. This objection will only apply where the water has been allowed to flow too profusely and too late in the season; and this may be entirely avoided by winter and spring irrigation, properly conducted. As increased fertility of the soil is an object with every farmer, I am decidedly of the opinion that from the first freezing of the earth in autumn, to the entire cessation of freezing in spring, is by far the most suitable and proper time for fertilizing all lands with water. An argument in favor of this, is, that several months of each year are added to the time for the water to impart its fertility; which is so much clear gain of time in addition to the common method; and the earth is kept through the whole winter considerably above the freezing point, and should a sheet of ice extend over the entire field, it will do no injury but protect the earth beneath from freezing.

Professor Davy ascertained that the temperature of the earth beneath a lid of ice, on a water meadow in England, was 14 degrees warmer than the air above, in a very mild wintry day. In this case, on the water being withheld, at the time above stated, the field will be several weeks in advance of

other lands, and an early crop may be put in, or if the field is designed for meadow or pasture, it is here that the first green mantle of spring is spread out, and it is here that the farmer's cattle find the first herbage of the season, and indeed linger latest in fall, for with a few judicious waterings in summer, it holds out later in autumn than other lands. I can point to a piece of tillage up-land, which a few years ago was a dry, barren spot, but is now like a rich garden, made so solely by water. A stream of what is called hard water, (rendered so probably by the sulphate of lime it contains,) has been diverted from its course, and spread over the surface for about six months of each year, and by filtering into and through the soil, has deposited an immense amount of fertilizing matter, as was clearly shown by a recent crop of Indian corn. The hills below the line of the ditch, yielding double the quantity of those above the line, and but a few feet apart. It was also noticeable, that while worms had seriously injured the corn above the ditch, not a hill was molested below, as far as the water had reached. And here I will remark that on all irrigated lands the grasshopper ceases to be "a burden" to the farmer, and the same may be said of all the various insects and worms that prey upon vegetation, whose combined depredations often deprive him of one-half of the product of the hay-field. Indeed, every description of vermin, which burrow beneath, or live on the surface, always to the annoyance of the farmer, find no resting place on irrigated land.

Time will not now permit me to go into a general detail of directions in relation to fertilizing land with water. I will observe, however, that all irrigation, after vegetation has commenced in the spring, should be, if practicable, applied only in the night, or between the setting and rising of the sun, and gradually discontinued as the season advances, and by the first of August entirely withheld, except to supply the deficiency which may be needed in the absence of rains. I am aware that but small portions of a country can be benefitted by irrigation, yet when we look at the extent it is practiced in the eastern hemisphere, where the surface is more flat and level than here, it certainly can be done to a still greater extent in many of these states. Indeed, there are methods adapted to both level and hilly districts, which can be as easily resorted to here as in foreign countries. When the least doubt exists with regard to the practicability of irrigation, the eye should not be trusted without the aid of a correct leveling instrument. All streams seek and flow through the lowest grounds and valleys in their vicinity; consequently by the laws of gravitation, aided by the spring freshets and rains, the soluble salts, the finely divided organic matters, and the richest parts of all soils, are gradually moving towards the place where waters flow, and are continually passing away with the current, and this forms one of the drawbacks upon the permanent fertility of soils. To arrest these matters from wholly passing away and being lost, is one of the important ends of irrigation. Even the smallest rills which flow but a few weeks in spring, may in most cases be diverted from their natural courses, and spread upon meadow or plow lands, in a few years rendering other and more expensive manures unnecessary as far as their waters reach; and it is certainly a great addition to the value of any farm, if the location admits of a portion of the same being fertilised by means of water, without going to an unreasonable expense. With this view, a careful examination of every stream which the farmer has at his command, should

be made, and this, in most cases, can easily be done. A. B.

On the Acclimation of Tropical Plants.

EDS. CULTIVATOR—By acclimation I mean, here, the capacity of vegetable productions to adapt themselves to a decidedly colder climate than that in which they originated; an adaptation accomplished usually, in a gradual manner. A plant may be said to be acclimated when, although its foliage may not have acquired that expansion, nor its fruit that flavor that it usually acquires in its native clime, yet both are of such a character as to render the plant available for the purposes of life, much as in its native clime.

The simple, and universally recognised fact, that nature has bestowed an appropriate vegetation upon each clime, a vegetation marked, in most cases, by well ascertained limits,—limits which spontaneous nature has, after no lapse of time, transcended; this fact, I say, would seem to answer the question of acclimation in the negative. What educated man thinks of meeting with apples, pears, cherries, wheat, oats and turnips growing at the equator; or who would look for coffee, oranges, or pine apples at Boston? All feel that here we are principally concerned in the cultivation of those vegetables that the hand of nature originated here, or somewhere near this parallel of latitude.

What then are the facts in regard to acclimation? Can tropical plants, by a progressive cultivation, or by a sudden but careful removal to the north, be brought at length to flourish, say at Boston or Buffalo, as in their native clime? The answer in general, is—no, not in a single instance. Not only will they not produce perennially, or through the whole year, or resist frost, but, during the short season of production, they will be exposed to liabilities unknown to them in their native climes.

There are about seventeen tropical and semi-tropical plants cultivated here, besides numerous other plants and flowers that are occasionally seen. They are the artichoke, bean, cucumber, corn, egg plant, watermelon, muskmelon, nasturtium, okra, pepper, potato, sweet potato, pumpkin, squash, sunflower, tobacco and tomato. Most, and perhaps all of these present also varieties, and some of them very numerous. Now in what sense can these seventeen plants, (more or less,) be considered acclimated, some of them, as corn, potatoes, beans, &c., having been cultivated at the north for more than two hundred years? I answer—

1st. The least degree of frost kills them according to the degree of its severity, now, just as it did the first year of the introduction of any variety of these plants. Not the least power to resist frost has been acquired. Indeed, plants produced by seed fresh from the tropics, resist frost just as well as old varieties of the same plants that have been cultivated here for a century. In 1849, I cultivated a potato whose ancestor was imported from Bogota the year before, and also seedlings of the same, the seed being grown here in 1849. During the same year, I also cultivated a muskmelon and a winter squash from St. Thomas, in the West Indies. And yet they resisted the autumnal frosts just as well, and no better, than our old varieties of the same vegetables.

2d. A cold summer, especially if it be wet, will sicken the most of these plants, so that they will die, or not fruit at all, or at least produce a fruit of little or no value. The potato, and probably the nasturtium, are exceptions to this rule, from

the fact that, though tropical, they are also mountain plants in their own country. Corn and beans also exhibit considerable hardiness, but yet are not unfrequently a failing crop. The other varieties must almost habitually be cultivated with extreme care to secure a good crop, and often, with every precaution, are a total failure, even when not cut off by frost.

3d. When started early, in favorable seasons, i. e., those that are long, warm and dry, they do well. They nearly all require from 15 to 20 weeks to mature their fruit, and these weeks must all be comprehended within warm weather; the potato and artichoke being, I believe, the only tropicals that will germinate in cool weather, and they, it will be seen, are tubers, and not seed, usually. If then any one season does not open early enough, and extend far enough into the autumn to afford at least fifteen weeks of warm weather, the most of tropicals, become a failing crop. Hence it is wise to start the more tender sorts in hot-beds in the spring.

4th. If we wish strong and sure seed of these plants, we must see that it ripens in warm weather, or, at the very least, the fruit must get its growth in such weather. Late planting, or a cold summer will be sure to produce seed that is thin and imperfect, and of feeble and uncertain vitality. The due elaboration of tropical seeds requires heat as an invariable law.

5th. These tropicals are nearly all susceptible of a *shortened period* of growth in northern climates. The first year or two, after tropical plants are brought from the south, they are ripened with difficulty. The three plants, noticed above in No. 1, evinced this. The muskmelon with much difficulty ripened but two fruits on thirty hills; the squash did not mature at all; and the potato, at the approach of late frost, was all in bloom. The seedling tubers of these potatoes did not acquire, usually, more than one-fourth the size of other seedlings, raised from seed obtained from old home varieties. If, with the utmost care, you can get seed fresh from the tropics, to ripen one crop of seed, there is always hope that in subsequent years, it will so much contract the period of its growth as to be capable of advantageous cultivation, at least after a few years.

6th. In the cultivation of tropical plants, little dependance should be placed on seed imported directly from tropical climates. Not only will its season of growth be probably too long, as already seen, but, from some perhaps inexplicable connection between plants, and the soil and climate in which they grow, they need to be produced from seed grown on the soil and in the climate where the plant is to be durably cultivated. Hence generally, our chief use of seed, brought directly from the tropics, should be as a basis of new and strong varieties to be gained often, in the first instance, with considerable difficulty,—varieties which, when grown from the first, second or third crop of home grown seed, will be likely to exhibit plants much better adapted to peculiarities of climate than the originally imported seed was. This fact is not confined to tropical plants, but it is a law somewhat general in vegetable physiology. Some of the finest apples and peaches of the United States, do not sustain their reputation in England, and some other parts of Europe,—and the reverse. So fine varieties of potatoes brought from Wales, England and Scotland, do not succeed well here, generally. In our own country, some varieties of fruit fail of their peculiar qualities, when removed a few miles from the spot on which they originated. The seedling potato noticed

above in No. 1, though eminently hardy in respect to *climate*, is yet liable to injury from a small black flea, as our native varieties are not, and showing the need of re-production, in this climate, so as to secure a firmness or other peculiarity of tissue which will resist this enemy.

The foregoing considerations are those that seem most important to be noticed on the question of the acclimation of tropical plants. And now, what is the result? It is this, and only this. Such plants as can ever be cultivated here at all, are capable, by successive re-production, of shortening their period of maturity, so as to come within the limits of our ordinary summers. This is especially true of corn, potatoes, beans and pumpkins. Almost all the others frequently fail unless forwarded in hot-beds. It is possible also, that the foliage of some tropicals may here acquire a greater power of resisting chills than they possess in their native country. But I am doubtful of even this, since, after having cultivated the most tender of these tropicals for many years, and often almost by the acre, I have not found any tendency to such increased hardiness.

Any hope then, of ever making these plants capable of bearing the frost, is as vain as that of converting a bulrush into a cedar of Lebanon; or that of accustoming the lion, the camel, and the elephant to a northern winter, in common with the deer, the wolf, and the fox.

Our climate presents very wide extremes of temperature, exhibiting at once the summer heats of Spain and Italy, and the wintry cold of Sweden. The heat of our summers, being thus nearly tropical, is found quite sufficient to mature such tropical plants as are accommodated to their length. Hence, although vegetation starts later in the spring, and closes earlier in the autumn, than in England, its progress in midsummer is so much more rapid, in consequence of its intense heat, that tropical plants mature here, and produce fruit, equal to that of southern climes,—fruit that will not grow at all in England, Holland, and the north of France.

It is most unfortunate for the science of agriculture, that we have, so far as my acquaintance extends, no well written treatise on the cultivation of tropical plants. So low is the state of society in all the states of tropical regions, that the people do not know the capabilities of the soil and climate which they possess, nor the susceptibility of improvement inherent in their fruits and vegetables. Hence, with soil and climate so much inferior, we yet cultivate melons, tomatoes, squashes, &c., in size and flavor, decidedly superior to the same fruits cultivated there. Many of these plants, as varieties of the bean, pepper, squash and nasturtium, are known to be there biennial, and some even perennial. There is some reason also to suspect that the tomato, and some sorts of melons, are more than annual, when cultivated in their native climes.

It will be seen that the preceding remarks are applicable especially to central New-York, but the leading principles of this article are applicable to all northern climes, whose summer heat compares at all with ours.

The preceding illustrations have been confined to herbaceous plants, and mostly to such as are technically called *vegetables*, but the principles apply equally well to *fruits* growing on wood stems, such as the peach, and the grape especially, which are semi-tropical in character;—and also remotely to the cultivation of the apple, pear, apricot and quince.

The above facts are hastily thrown out, in the hope that some one favorably situated will pursue

the subject, and give to the public a full exhibition of facts and principles in a department of horticulture which has heretofore been left in the dark. C. E. G. Utica, March, 1850.

Things Necessary to the Successful Pursuit of Agriculture.

EDS. CULTIVATOR—It would be impossible, within the precincts of a short article, to cover the ground occupied by this topic. All that can be done here is to throw out a few suggestions upon the subject.

It is often said of farming, “Oh! yes, it is a very fine thing to write about, and talk about, but when it comes to the labor of it, it is a great deal of hard work for a very little money.” No doubt, as farming is generally conducted, this is a truth;—but are there not disadvantages connected with the pursuit of agriculture, as it has been followed in times past and at the present day, which would operate as strongly against the profits of any other occupation as it has done against agriculture?

Among the many, let us look at a few facts. Suppose a man, anxious to enter into business, should buy him a fine store, and fit it up with many conveniences for the reception of goods, and then should find out that in so doing he had expended all his capital, and had nothing left to buy goods with, would not this, even with all the facilities of the credit system, hamper his prospects for business so much as to render his success very doubtful? And does not this bear a strong analogy to many cases among farmers? We will suppose a man to come in possession of a farm of fifty acres of land, with the necessary buildings for farming purposes, and one thousand dollars in cash. Now do I not state a fact, when I say that instead of keeping the \$1,000 as a capital to conduct the business of the farm with profit and success, seven men out of nine would seek at once to buy more land, investing the \$1,000 in this way, and perhaps even buying so much more land as to run them in debt \$1,000, thereby laying them under an interest of \$60 or \$70 a year, besides depriving them of any capital wherewith to improve their newly acquired property. In this situation, then, no matter what a man sees which might be an improvement, and one of very great advantage too to his farm, he is obliged to let it go “to a more convenient season,” for want of means to carry it through. Men require capital for the successful pursuit of trade, commerce and manufactures. Is it at all wonderful then, that capital should be required for the successful pursuit of agriculture? Nay, is it not more wonderful that men can start as they often do, with little or nothing, make a small payment upon a farm, and bringing bone and muscle in direct opposition to capital, after a long struggle, by the aid of perseverance and economy, finally gain the victory? It is always and ever a long and desperate struggle, this struggle of bone and sinew against 6 or 7 per cent. interest. Even sage experience often stands aghast, and sighs to think that what it knows would pay so well, must yet be left undone for want of means. But give a man who can win this battle, a farm, and a capital adapted to its size and situation, and my word for it, he can make agriculture a source of profit.

I will next name *experience*, as an essential to the successful pursuit of agriculture. Experience—ah, what a volume does that one word express. Experience in trade, in commerce, in manufactures,—who thinks of entering into and hopes for success in any of these branches of social life, without expe-

rience; and shall he hope for success in agriculture without it? Does the tyro in mechanics, seek to build a house before he learns to plane a board?—Does he not learn his art, step by step; and is not agriculture an art, and must it not be learned by practice, by study, by experience? Without experience, what is it? It is to the wise in other pursuits, a stumbling block. How many men have there been, who, tired of a life of toil amid papers and account books,—tired for a time of brick walls, of vain and empty pageantry,—have determined to spend the rest of their days amid green fields and shady groves? They become farmers—but, alas, few qualifications have they for this vocation. They bring with them habits of body and mind almost unknown to the agriculturist, and after spending a few years in what is to them a hermitage, with impaired fortunes, and disgusted with all that appertains to agriculture, they again seek the busy marts of trade. Had agriculture been to them a *profitable investment*, they might have liked it; but it was a *losing business*. Alas, experience was wanting to teach them how to invest their capital.

If a man has a taste for agricultural pursuits, and capital enough to see him safely through all the *rudiments* of the science, and to bear him through all the *hard knocks* that his purse will get from a want of experience—if, in short, he has capital enough to pay for his experience, and taste enough for agriculture to consider it well spent, it may do; but let no man of very limited means undertake to conduct the business of a farm without experience, unless he wishes to make shipwreck of his property. And what I say here, I say again is not peculiar to agriculture. No man can be a good lawyer, a good doctor, a good merchant, a good mechanic, without practice, study, experience; why then should he be a good farmer without them?

Order, System and Economy,—without these, no man can be successful in conducting the business of a farm; but as these subjects have recently been discussed at some length and with much ability, in the pages of *The Cultivator*, I shall only make a remark or two concerning them. If a man neglects these things, capital will be expended without a profitable return, and even experience will be of little avail. That man cannot expect to prosper, who leaves everything at odds and ends. If grain is sown, and cattle pastured in adjoining fields, with little or no fences around them, in all human probability the grain will be destroyed. If pigs are allowed to wander about a man’s yard, and now and then to get into his garden, it is not very likely he will have many vegetables for his table—and so too of a hundred other things which might appear very simple to be mentioned in a book or paper, but which are nevertheless true. Such things certainly exhibit a want of order, a lack of system, and very poor economy.

I shall now mention *Book-farming*, as a very necessary thing for the successful pursuit of agriculture. Yes; book-farming—that terrible bugbear to the so called practical farmer—for notwithstanding all the attempts which have been made to define book-farming, and to show that it is in the main but the gathering up of practical experience, still the practical man, as he calls himself, flies from it as the wild horse would from before the locomotive. I am sometimes ready to ask, were there ever men in the world, savage or civilized, so blind to their true interests as many of our farmers are?—Books have been written upon almost all subjects;—trade, commerce, manufactures, the sciences, the mechanic arts, navigation, have all come in for their share;

but does the merchant, the manufacturer, the mechanic find fault with them? Does the navigator, as he sails over the wide expanse of ocean, throw aside the chart that was to guide him on his way, and when he nears some perilous shore, some rocky coast, does he exclaim—"Charts are of no use to me—I heed them not—if there are hidden rocks here I will strike them, and then I will know where they are again for myself." Suppose for a moment that something too theoretical has been advanced,—something that practice will not bear out,—is it the right way to correct the error to turn one's back upon everything that has ever been written—to pronounce it all bad and dangerous, and to brand it with infamy? Have not wild theories been advanced at different times in philosophy and the sciences? How have they been corrected? Why simply by men reading them, reflecting upon them, and by the aid of their intellects, working out truth from amid the mass of rubbish beneath which it was buried. And so too must the truths of agriculture be worked out from the mass of rubbish beneath which they are buried.

Farmers, we are here in an age of improvement; inventions and discoveries are crowning every art and science. Shall we remain torpid, while every thing around us is teeming with the impress of intellect? Depend upon it, we are but in the infancy of our occupation so far as *mind* is concerned. Can any man of ordinary intelligence look upon the present system of agriculture without discovering in it some of the grossest errors? Men wonder that agriculture is not more profitable; but are too indifferent to seek for remedies. Let us awake from this indifference—let us seek and examine—let us bring hidden things to the broad daylight—summons chemistry, geology, philosophy, mathematics, to our aid, and press onward to develop new resources and principles. H. C. W. *Putnam Valley, N. Y.*
March, 1850.

Neglected Manures—No. 7.

Liquid Manures, Tanks, &c.

ANALYTICAL LABORATORY, YALE COLLEGE, }
New-Haven, Conn., June, 1850. }

EDS. CULTIVATOR—Having now mentioned in succession, a variety of manures in a number of classes; having called attention to the fact of their being almost universally neglected, and to the leading characteristics which in the several cases constituted their chief value, I propose to leave this subject, lest your readers should find it becoming tedious. It is far from being exhausted, indeed it is but begun: still enough has been said to call into exercise on the part of attentive readers, a spirit of watchfulness that nothing worth saving shall escape them in future.

In the present letter, I shall notice the great waste of liquid manure, which occurs in many parts of the country, and the imperfect methods of attempting to preserve it, which are often adopted.

Chemical analysis shows the liquid manure, or urine, of animals, to contain many valuable fertilizing substances. It is always particularly rich in nitrogen, also in the alkalies, potash and soda, and in carbonic and sulphuric acids. The excrements of birds contain both the liquid and the solid part together, hence their great richness; this fact alone should convince the farmer, that in losing the liquid he greatly reduces the value of his solid manures.

The nitrogen in fresh urine exists there chiefly in the form of a substance called urea; this consists in

a large part of nitrogen, and if dry may be exposed to the air for a long time, before it undergoes any perceptible change. In the presence of water however, and the other substances with which it is associated in urine, a species of fermentation soon commences; it is then speedily changed into carbonate of ammonia, which readily escapes into the atmosphere. In warm weather, the smell of this ammonia escaping may be perceived after the lapse of a very few hours. If the fermentation be allowed to proceed, the whole of the nitrogen will be transformed into carbonate of ammonia, and the larger part of this will evaporate into the air. If this constituent can all be retained, and the liquid applied to the crops, it is found to be a powerful manure. Prof. Johnston states, that at Flanders the urine of each cow is valued at about \$10 per annum.

Scarcely less valuable are the drainings from the dung heaps, or from barn-yards. These contain large quantities of ammoniacal substances, and also of useful mineral ingredients, dissolved out from the solid parts of the manures. They undergo the same fermentation as urine, but more slowly, and the ammonia also escapes in this case. Where the manure, as is to be seen in many yards, is exposed to constant washing by rains, nearly every thing soluble in water is gradually dissolved out, and it is thus rendered quite inferior in quality.

The question now arises, how are these valuable liquids to be preserved? and how is the loss of their ammonia to be prevented? The method of accomplishing this, may vary with circumstances and situation.

Where it is practicable to build the barn upon a side hill, there is probably no better plan than to form a cellar beneath it, where all of the solid manure can be thrown from above, and the liquid conducted down upon it. A layer of peat or muck upon the floor, would prevent any thing from soaking through and escaping. In certain situations, manure kept in this way becomes too dry, and does not decompose properly; in all such cases the liquid manure would be doubly valuable. Some farmers turn in hogs to root over and compost the material in such cellars. Manure made in this way is neither exposed to evaporation, nor to washing, and one load is worth two or even more, of the bleached and washed straw and stalks, which we see being carted out from some yards. If it ferments too much, it is necessary to turn it over to check fermentation; mixing earth and sprinkling plaster over the top is also a good practice.

In cases where the formation of the ground does not admit of a convenient cellar under the barn, a tank is the most advantageous receptacle for the liquid drainage. This may be made by digging a square hole at the lowest part of the premises, and rendering it water-tight by a lining of planks, brick or stone. This is far better than an open hollow, such as may be seen in many yards. These are not only disagreeable to the eye, and a source of many inconveniences, but they expose the liquid to the full evaporating and decomposing influences of the sun, so that it decreases and deteriorates in a very rapid manner.

Many farmers think that a tank must necessarily be made of great size, or it will overflow. If all the water from the eaves of the farm buildings be allowed to flow into it, such a necessity exists, but if this water is carried away by separate drains, as it should be, then the quantity flowing into the tank cannot be excessive. During the summer, except where much stock is kept, or after showers, little liquid would be collected; especially if the yard were

spread with muck. Where there is much stock, a drain should be made to lead their urine directly into the tank.

The next question that arises, is relative to the disposition of this liquid from various sources, after we have got it into the tank. From what has been said, it will be seen that it is extremely liable to ferment and putrefy, and to lose a large portion of its most valuable ingredients; this will not happen quite so soon in a covered tank as in the open air, under the influence of the sun, but still it cannot during warm weather be delayed long. There are several methods of treatment which have been found successful.

Some farmers mix two or three times its bulk of water, thus retarding the fermentation until they have leisure to distribute the liquid over their fields, with a common water cart. In most cases this would be a troublesome mode of management. A more convenient way, is to pump it up, and pour it upon the surface of manure and compost heaps, sprinkling them over with gypsum at the same time.

Where neither of these plans will answer, it is quite practicable to preserve the ammonia by sprinkling in occasionally a little sulphuric acid, say one or two pints; this converts the carbonate of ammonia into the sulphate of ammonia, a compound far less volatile than the carbonate. The same effect may be produced by adding gypsum or sulphate of lime; sulphate of ammonia is formed in this case also. The propensity that gypsum has to form this compound, when it is brought into contact with ammonia, explains its beneficial action in arresting the escape of that gas from fermenting manure heaps. Even when ammonia is rising so as to be visible in white fumes, and perceptible to the smell, a sprinkling of gypsum will arrest all further escape for a considerable length of time.

In situations where it is convenient to employ them, peat, peat ashes, wood or coal ashes, rich mould, &c., are good materials to throw into these tanks; they will absorb nearly all of the valuable parts of the manure. The tank soon fills up in this case, and must be cleaned out at comparatively short intervals.

These methods of using the liquids from the barnyard, and the stables, are all perfectly simple and practicable, while at the same time they involve little expense. The manure saved is of the most powerful character, and will upon trial be found to add very greatly to the resources of any farm.

The subject of water from the sewers of towns, has lately attracted much attention in England, and Prince Albert has quite recently made public a plan foreextracting on a large scale, the valuable substances which it contains. He proposes a large upward filter,—that is, to bring the water into a receptacle under such a head, as to force it upward through a filter of sand and gravel. The clear water passes off above, and the solid matter remains below the filter, to be taken out and used for manure. I think that certain practical difficulties would attend the working of this plan, and the Prince seems to have overlooked the fact, that the clear water which runs away contains everything that is soluble in water, and of course much that it is important to preserve. In any case, the system would be too expensive for this country, but is worthy of mention as showing how much value is placed upon this species of refuse abroad. Wherever land lies so that it can be irrigated from the sewers of large towns, such irrigation will be found a most effectual and economical method of enriching it.

For my next communication I shall endeavor to select some more savory subject than has occupied

our attention in the preceding letters of this series.
JOHN P. NORTON.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS.

NOTES ON GARDENS AND NURSERIES.

A few observations made of some of the gardens and nurseries in the vicinity of Boston, about the first of the sixth month (June,) may prove interesting to such of our readers as have not had opportunity for personal examination in that place, so eminent for horticultural improvement.

Grapes of J. F. Allen, Salem.

J. F. ALLEN, regarded as the most eminent grape culturist in America, has erected a number of grape houses, having in the aggregate, a running measure of about 500 feet, containing grapes, peaches, nectarines, and cherries, in the highest degree of culture. The forcing grape house had hundreds of bunches of large, fully grown, and ripe Black Hamburgs, hanging in rich clusters overhead, together with many other of the best foreign sorts, mostly ripe. Some of the bunches were nearly a foot long. The most rich and showy variety was Wilmot's New Black Hamburg, the clusters being heavy and compact, with the berries about an inch in diameter. The Cannon Hall Muscat, the largest grape noticed, had slightly oval berries more than an inch long. The house containing these specimens was the second forcing house, the earliest ripened grapes being all gone.

Another house is devoted to retarding, the fruit not ripening till winter. The forcing, cold, and retarding house, furnish ripe grapes the year round. The earliest grapes have sometimes ripened a month before the late ones had disappeared.

The peach house was lined with over a hundred feet of nectarine trees, loaded with partly grown fruit. One tree of Hunt's Tawny was full of rich, golden, ruddy-cheeked nectarines, fully matured. A part of the peaches, with fruit about two inches in diameter, were beginning to redder. It may be remarked however, to those not familiar with forcing fruit, that while early ripened grapes are usually of delicious flavor, forced peaches are comparatively insipid.

Another house presented an exhibition of ripe cherries. The Elton was particularly fine, the fruit being an inch or more in diameter. The Black Tartarian did not succeed so well. It will be observed that at this time, peaches, nectarines, and cherries, in open ground, were but a few days past the season of blossoms, and that the cold, damp weather had materially injured and retarded the house fruit.

Buckthorn Hedges.

Good specimens of buckthorn hedges were seen on the grounds of J. C. LEE, of Salem, forming a close thick growth about six feet high. The only defect was in their being sheared too broad at top, the sides being nearly perpendicular, and the growth being shaded at bottom, was not sufficiently vigorous and dense. The most perfect specimen was in the garden of OTIS JOHNSON, of Lynn, the hedge being over seven feet high, and four feet and a-half thick at bottom, tapering with sloped sides to a sharp edge at top. It presented a very close and smooth wall of verdure from bottom to summit. It was 9 years old. Although but little thorny, it

would doubtless prove a very safe and efficient farm fence, or form a good fruit-garden boundary.

Fruit Gardens and Nurseries.

The nursery of HOVEY & CO., at Cambridge, is decidedly the best in the vicinity of Boston, and one of the best in America. The broader alleys are lined with rows of specimen fruit trees, among which there are one thousand of the pear, consisting of about six hundred different varieties. They are mostly on pear stocks, and are trained as pyramids, and average about seven feet high. Nearly all are in bearing. They are the finest collection we have seen. The green-houses, hot-house, and conservatory, are in the aggregate about 400 feet long, and are densely filled with rich and rare plants. A lemon tree was loaded with fruit, many specimens measuring four inches long, and three in diameter. A beautiful drooping acacia about 15 feet high, and an *Agave americana*, (century plant,) expected soon to bloom, are among the interesting objects of the collection. Hovey & Co. occupy 36 acres of ground, and they have one of the most extensive collections in America, embracing fruit and ornamental trees, shrubs, &c., down to the most delicate green-house plants and annual flower seeds.

The great and celebrated collection of specimen fruit trees of the late ROBT. MANNING of Salem, now under the charge of his son, the present Robert Manning, is a place of great interest to the pomologist. Nearly 1000 kinds of the pear have borne fruit here. There are some pear trees growing on quince stocks, about 25 years old, still healthy and vigorous, although they have not received high cultivation.

The grounds and fruit garden of OTIS JOHNSON, of Lynn, are remarkable for the perfect neatness of their keeping, and the high state of vigor and thriftiness of the trees. Some hundreds of dwarf pear trees trained in the pyramidal form, exhibited the excellence of the culture they received. This garden has long been celebrated for the large number of premiums its specimens have taken at the exhibitions of the Massachusetts Horticultural Society.

The nursery of H. H. CRapo of New-Bedford, is well filled with one of the finest collections of pears for sale that we have seen. He confines his attention mainly to this fruit. About 30,000 trees are of good size for transplanting. He states that the Deodar Cedar and the Scarlet currant both prove perfectly hardy on his grounds.

An excellent nursery for hardy trees only is that of S. H. COLTON of Worcester. It occupies 20 acres. In addition to the fruit trees with which it is mainly occupied, there are many thousand of the American Arbor Vitæ (or white cedar of New-York) for screens and hedges, for which purpose it is becoming much sought.

Fruit Garden of J. M. Earle.

J. M. EARLE, (President of the Worcester Horticultural Society,) furnished many interesting facts on fruit culture. Among all the new pears, he regards the *Paradise d'Automne* as decidedly the most promising of the autumn varieties, for that locality. Its growth is rapid, and so far as has been proved, it is quite productive. He is confident that the cracking and failure of the White Doyenne cannot arise from exhaustion of soil, the disease having within a few years, made its first appearance at Worcester, on young and old trees alike. In some instances, however, on trees standing closely side by side, of equal size, age and treatment, the branches being interwoven, one tree bore worthless fruit,

while the other was loaded with large, fair and perfect specimens.

He has fruited the Diana grape, but does not regard it so valuable, all its qualities considered, as some have represented. It is however, a very desirable sort, ripening about three weeks before the Catawba, and is of high flavor. But unless well cultivated, the fruit is small. The published figures give a fair representation of the finer bunches under high culture. With the best treatment (which it should always receive) its growth is nearly as vigorous as that of the Isabella.

Evergreen Screens.

The grounds of J. P. CUSHING, near Boston, furnish some very fine specimens of evergreen screens, bordering the carriage ways when the side view is to be concealed, or where they lead to the back buildings. The trees employed for this purpose are chiefly Norway fir, American Arbor Vitæ, American White Pine, and Balsam fir, and are 20 or 30 feet high, about 8 feet apart, not sheared, but forming a close and effectual screen. An Arbor Vitæ hedge, four and a-half feet high, presented the smoothest and most perfectly dense wall of verdure we have ever seen. It has stood fourteen years, and is kept well sheared.

Grounds of James Arnold, New Bedford.

These form one of the most perfect specimens of modern gardening on a limited scale in America. Only two or three acres are occupied, yet within this space there is more variety, in open lawns, winding walks, groups of shrubs and plants, dense screens of verdure, changing vistas, and rustic arbors, than is afforded by some other places of ten times the extent. All is in the most perfect finish and keeping. The fruit and kitchen garden is surrounded on three sides by a massive wall of granite twelve feet high, the inner face being wholly covered with fruit trees, trained upon the trellis. Under glass, were noticed fine ripe clusters of the Black Hamburg grape, and full grown peaches were redening.

Cultivating Orchards.

For a few years past, about eighty thousand dollars' worth of fruit trees have been annually set out into orchards in the single state of New-York. If these were all treated in the best manner, in preparing the ground, in carefully transplanting, and in good care and cultivation afterwards, each year's planting would probably be worth to the owners in ten years, not less than three millions of dollars, so far as their value may be measured by a sum of money. The question arises, what proportion of this great number of trees are actually advancing with full promise of what they might attain? What portion will really become in ten years, by the best treatment, full-sized, healthy, and productive?

Several intelligent individuals have given it as their opinion that not one half of the trees that are set out, ever survive the third year. A very large number are certainly lost by careless removal, hasty transplanting into hard ground, and total subsequent neglect. But of those which survive, there are undoubtedly not one-tenth, that make half the growth they would attain under good management. We have seen whole orchards of young peach trees, smothered to death the first summer by the heavy growth of meadow grass which nearly enveloped them. A far larger number, however, are those which are not killed outright, but which linger year after year with a slow and feeble growth. Now, this

tardiness is altogether unnecessary. Peach trees as far north as forty-three degrees, have been made to yield the third summer from transplanting, three pecks of peaches, and apple trees the fifth summer one bushel, each. An eminent pomologist now living in western New-York, set out a large fruit garden after long years had silvered his head with whiteness; yet for the past twenty years he has annually enjoyed a profusion of fruit from this identical fruit garden. The secret consisted simply in treating his trees as well as every good farmer treats his corn and cabbages.

"But we cannot afford to give so much attention to our trees—the rich man only can do this," says the laboring farmer. What! not afford to be economical? The man of small means is the very person to save his trees after he has paid for them; he is the very man who should not spend his coin to have feeble and fruitless orchards. Let him buy half the number, and apply the other half of the purchase money in taking care of what he has, and he will soon become the gainer by the operation. It is however a great mistake to suppose that much expense is needed. Enriching the land is largely paid for by the heavy crops of potatoes, carrots and rutabagas which grow between the rows while the trees are small, and by the equally heavy and more valuable loads of ripe fruit profusely yielded afterwards. The expense of plowing once a year, and harrowing four times, is perhaps not half the first cost of the orchard, to say nothing of the annual crops afforded; while it soon renders it quadruple the value of the neglected plantation. Why do not farmers apply the same wit and wisdom to the management of their orchards that they do to their corn and clover crops? Why should they not, when many who fortunately have already full grown orchards, get more in monied value from them than from all their farms besides?

The difficulty is rendered greater in most cases by the very inconvenient machinery used for plowing near the rows. A plow drawn with a two-horse team, with double whiffle-trees, cannot safely approach nearer than three feet to a tree, and every plowman dreads a task which is commonly attended with mutilated bark on one hand, and wide grassy "balks," on the other. A great improvement is made by placing one horse ahead of the other, with short single whiffle trees, especially if the draught traces of the hinder horse are considerably lengthened to allow running to right or left.

A wide error is committed in cultivating orchards by those who forget that roots extend far beyond the circle measured by the branches. The whole surface of the ground is covered by the net-work of roots, where full-grown trees stand 20 or 30 feet apart. The larger and more obvious roots, it is true, are near the base of the trunk; but all the finer ones, which so largely contribute nourishment, are spread at great distances. Hence all orchards which have made some years of growth, should have the whole surface cultivated and kept mellow, and not narrow strips or small circles just at the foot of the trees.

Profits of Fruit Culture.

The following facts, exhibiting the large profits which may be derived from the skilful culture of fruits, are furnished by S. W. COLE, of Boston, who is a remarkable fact-gatherer, and who remarks, "we give some extreme cases, and others which common skill may compass. The cultivator will do well with medial success. Yet it is well to have a standard of extraordinary attainment, or the perfe-

tion of excellence, as a goal for those who inscribe on their banner '*excelsior*.' "

"Mr. Moses Jones, of Brookline, in this vicinity, a most skilful cultivator, set 112 apple trees 2 rods apart, and peach trees between, both ways. The eighth year he had 228 barrels of apples, and in a few years from setting the trees, \$400 worth of peaches in one year; and the best part of the story is, that large crops of vegetables were raised on the same land, nearly paying for the manure and labor. The tenth year from setting, many of the apple trees produced 4 or 5 barrels each, the land still yielding good crops of vegetables, the peach trees having mostly gone by old age. Mr. J. grafted a tolerably large pear tree to the Bartlett, and the third year it produced \$30 worth.

"Mr. S. Dudley, a very successful cultivator in Roxbury, an adjoining city, sold the crop of currants from one-eighth of an acre, for \$108, the next year for \$125, and he had good crops for several years. He picked 500 quart boxes from one-eighth of an acre the next season after setting the bushes in the fall. He had \$25 worth of cherries from one Mazzard tree.

"We saw, in Natick, Ms., on the banks of the 'classic Charles,' on the farm of M. Eames, Esq., an apple tree grafted to the Porter when 75 years old; it soon bore, and the seventh year it produced 15 barrels, which sold at \$30. The original Hurlbut apple tree produced 40 bushels in one year and 20 the next. The original Bars apple yielded 60 bushels in one year. N. Wyeth, Esq., Cambridge, in this region, had from a Harvard pear tree 9 barrels of fruit, which sold for \$45.

"A farmer would not plant an orchard, thinking he should not live to eat the fruit; his son had the same views; but the grandson planted for posterity, yet his predecessors shared in the fruit also, for the grandfather drank hogsheads of the cider.

"Hovey states that a Dix pear tree, in Cambridge, produced \$46 worth of fruit at one crop. We saw in Orange, N. Jersey, 100 bushels of apples on a Harrison tree, which would make ten barrels of cider, then selling at \$10 a barrel in N. York.

"Downing says that the original Dubois Early Golden Apricot, produced \$45 worth in 1844, \$50 in 1845, \$90 in 1846. A correspondent of the *Horticulturist* says that Mr. Hill Pennell, Darby, Pa., has a grape vine that has produced 75 bushels yearly which sell at \$1 a bushel. James Laws, Philadelphia, has a Washington plum that yields 6 bushels a year that would sell for \$60. Judge Linn, Carlisle, Pa., has 2 apricot trees that yielded 5 bushels each, worth \$120. Mr. Hugh Hatch, of Camden, N. J. has 4 apple trees that produced 140 bushels, 90 bushels of which sold at \$1 each. In 1844, a tree of the Lady Apple, at Fishkill Landing, N. Y., yielded 15 barrels that sold for \$45.

THE HORTICULTURIST.

This excellent periodical, which for the amount and value of its matter, and pre-eminently for its practical utility, stands without a rival, loses none of its interest with the appearance of each successive number. We cannot, probably, better acquaint such of our readers as do not see it, with the nature of its character and contents, than to give a few condensed extracts from the single number for the past month, (May,) at the same time they will obtain much valuable matter.

Raising New Pears.

An excellent article from the pen of SAMUEL WALKER, President of the Massachusetts Horticultural

tural Society, urges the importance of raising seeds for new varieties of the pear by crossing, regularly and systematically conducted; no country having probably produced so many good varieties of this fruit, in proportion to the number of seedlings fruited, as the United States. He proposes to have two good varieties, growing side by side of each other, distant from any other sorts. By way of illustration, he suggests that the following varieties be made use of for this purpose:—

No. 1, Bloodgood,	{ To be grown side by side to produce seed for summer varieties.
" 2, Williams' Bon Chretien,	{ To be grown side by side to produce seed for autumn varieties.
No. 3, Seckel,	{ To be grown side by side to produce seed for winter varieties.
" 4, Louise Bonne of Jersey,	{ To be grown side by side to produce seed for winter varieties.
No. 5, Dix,	{ To be grown side by side to produce seed for winter varieties.
" 6, Beurre d'Aremberg,	{ To be grown side by side to produce seed for winter varieties.

"The trees to be grown at three different locations, at least one-fourth of a mile apart, and out of the influence of any other pear trees.

"The seeds of all the varieties should be taken from the fruit when fully ripe, kept separately, and labelled as follows, viz:—

- " No. 1, Bloodgood, fertilized by Williams' Bon Chretien.
- " No. 2, Williams' Bon Chretien, fertilized by Bloodgood.
- " No. 3, Seckel, fertilized by Louise Bonne of Jersey.
- " No. 4, Louise Bonne of Jersey, fertilized by Seckel.
- " No. 5, Dix, fertilized by Beurre d'Aremberg.
- " No. 6, Benre d'Aremberg, fertilized by Dix.

Seeds thus raised and carefully labelled, I think, would command a good price. I would rather give five dollars for a paper of one hundred pear seeds fertilized as above, to raise pear seedlings from, than I would to pay one dollar for a bushel of seeds, collected indiscriminately."

Varieties of Fruit for the South.

M. W. PHILLIPS, of Edwards, Miss., after trying a great number of sorts, is satisfied that the best varieties now cultivated at the north, are at present the best that can be planted in the southern states. He says "if there be a single peach to excel Early Tillotson, or Early York (serrate,) or Crawford's Early, or some others, that are natives, I never saw them," although he has 150 varieties from all latitudes, in bearing.

He gives the following list, "ripening for 75 days, from the 20th of June to Sept. 1st," and remarks, "if there are indigenous peaches, from Mason & Dixon's Line to the Rio Grande, ripening in succession, superior to those, I will give 100 dollars for them, that is for a tree of each sort:"—

Early Tillotson,	N. Y. White Cling,
Early York, (serrate,)	Buist's Yellow,
George IV,	Red Cheek Melocoton,
Hoffman's Favorite,	Brevoort's Morris,
Crawford's Early,	Bergen's Yellow,
Poll's Melocoton,	Crawford's Late,
Early Red Rareripe,	Druid Hill,
Bellegarde,	Monstrous Pavie,
Oldmixon Cling,	Smock Late.

How to Cultivate the Apricot.

A sound practical article from the editor, recommends as the chief requisite for success, and to prevent the frequent loss of the trees from various causes, 1. To keep the trees low, and to head back the shoots in spring, avoiding the practice of trimming up to a naked stem, and thus exposing the bark to the action of the hot sun. 2. To provide a deep, well drained soil, well fertilized with wood ashes. 3. To plant in a cool aspect, to prevent the too early swelling of the buds, and their consequent danger from spring frosts. 4. To prevent the loss of the young crop by daily jarring down the curculio on spread sheets. "Where only half a dozen trees are cultivated, there is no mode of making war upon this insect so sure and reliable, jarring the trees daily during the month of May, with a pounder, (sheathed

at the end with india-rubber,) gathering the insects upon the sheets, and destroying them." The experience of a correspondent is added, that though previously unable to depend on his trees for a single apricot, after putting the jarring system into practice he actually obtained *three thousand most beautiful and luscious apricots* the first season of trial, from *five trees*.

Long Catalogues.

We are glad to perceive by an article copied from the *Gardener's Chronicle*, that Prof. LINDLEY has made a severe assault upon the long lists of many nurserymen, which have long led to such endless confusion. He remarks, "We have heard of one gentleman who numbered 1200 roses in his list, among which were about 350 wild briars, some of which had a little hair on their leaves, and some had none, some had double teeth, some had single, one sort had ovate hips and another oval, and so on. There exists we believe to this day a collection of Paeonies formed upon the same enlightened principle; and we have no doubt that similar collections of Daffodils, Michaelmas Daisies, or Catmints, may be found in some sequestered garden.

"This harmless folly, like many other crotchetts, destitute of all elements of longevity, could scarcely exist, one would think, in this utilitarian age. We are therefore witnessing at the present day collections giving way to selection; 'hard pruning' applied in all directions to those old bushes of barren, half dead wood; and a few select plants, thoroughly well grown, replacing the empty pots and moribund sticks which invariably characterised the collections of our worthy forefathers and their ancient sons as long as they remained among us. It is therefore not a little curious to find a race of worthy men still unconscious of the change in public feeling, and continuing to publish interminable lists of this and that, as if the rage for collections was as fresh as ever.

"Some recent lists of nurserymen and seedsmen afford amusing examples of this. One grower of roses offers 607 sorts of that flower; another, 850; a potato salesman's catalogue has 160 sorts; a Dahlia-grower's 3 or 400; a Geranium-grower's, as many; a seedsman invites attention to his 38 sorts of cabbage and 61 sorts of peas!"

Strawberries.

An Albany correspondent furnishes some excellent practical hints on the culture of this fruit, and strongly recommends a *moist soil*. He informs us that "a gentleman who is a good fruit-grower, informed the writer that the largest and finest strawberries he had ever seen were grown upon a terrace, from the slope above which issued a small spring, the water finding its way over the surface where the plants grew, and keeping it constantly wet."

Paint and Sand.

"WHEELER's durable paint for outside work, is made as follows:—Take 50 pounds best white lead, 10 quarts linseed oil; $\frac{1}{2}$ lb. dryers; 50 lbs. finely sifted clean white sand; 2 lbs. raw umber. Thoroughly mix and dilute the whole with the oil, adding a very little (say half a pint) of turpentine. A wire brush is used, which does not cut through with the sand."

Destroying Plant Lice.

The following simple and safe remedy is given. "Pour one quart of boiling water upon one ounce of shag tobacco; let it stand until cold, and then strain and bottle it for use; it will keep good a year if not wanted. One sprinkling of this will destroy

the green fly upon any plant, without the least injury to the plant itself. The best method of applying it, is to take the plant in one hand, and holding it with its head downwards, with a feather or brush sprinkle the tobacco water on the under part of the leaves, or if the plants are not in flower, all over them.

Destroying Mice in Nurseries.

J. W. HOOKER, of Rochester, completely effects this object by boring inch and a-half holes into wooden blocks, ramming in a quantity of corn meal and arsenic, and distributing them, with the mouth inclined downwards, in the most exposed places. The holes need filling each autumn.

Native Flowers.

Phlox divaricata is one of our most showy plants at this season, presenting masses of pure white, white with a blue eye, or pale purple; and more rarely, light red, or deep purple. Unlike many other plants from the woods, it agrees well with garden culture, where it sends up many stems, sometimes more than fifty from one root; and though each stem is "few flowered," yet the aggregate is 12 or 15 inches in height, and tends greatly to beautify the border.

Its specific name (*divaricata*) is derived from its form, or the manner of its growth; but it is a curious circumstance that our best botanists differ widely in regard to the meaning of this term. The Encyclopædia of Plants defines it, "growing in a straggling manner," and S. F. Gray, (Nat. Arr. British Plants) "very open, and growing in many different directions;"—while Louis-Claude Richard has it, "spreading out from the stem so far as to form more than a right angle with it above"—Beck, "diverging so as to turn backwards"—Darlington, "spreading so as to form more than a right angle with the stem above"—and Webster "turning off so as to form an obtuse angle above, and an acute angle below." Now from these definitions, I should infer that Linnæus had the first meaning in view when he named this species, for I have seen nothing about it to warrant the application of the second definition. D. T. 6 mo. 5, 1850.

Layers.

I have found that "a forked stick" to hold down the branch or shoot, is attended with much inconvenience, and now employ a substitute that suits me exactly. The inconvenience is that the proper length of the stick, chiefly depends on the softness or firmness of the soil; for we cannot tell without trying, how far the stick can be pressed in. If the ground is very mellow, and the stick rather short, it will not hold its place against the spring of the layer; and if the earth is hard, and the stick rather long, it must be cut shorter, on the old principle of "cut and try." Besides it is often difficult to find forked sticks in a garden, just when we happen to want them.

Well, now for the substitute. Take slender sticks, 8 or 10 inches long—whether cut from rods, or split from boards and shingles—and sharpen them. Press the layer firmly in the bottom of the trench, and set one of the sticks on one side, touching it at an angle of 45°; and then another stick in the same manner on the opposite side, and it is done. The sticks may enter the ground 2 inches, or four inches—as far as a reasonable pressure can force them—it matters not which; and there they are, firmly fixed in their positions. D. T.

Fruits for Central Illinois.

Information is constantly and eagerly sought in relation to the sorts of fruit adapted to the new West. Fruit cultivators are constantly removing to those regions, and wish to know what to carry with them; and older settlers are becoming rapidly awakened to the importance of having orchards of fine fruit. The following list of apples for central Illinois, is given by F. K. PHOENIX, of Wisconsin, a very accurate and skilful cultivator, in the sketch of a trip through the former State,* and is the result of his deliberations, in connexion with those of E. HARKNESS, one of the best nurserymen of Illinois.

The following are "good, and worthy of cultivation, though varying in merit."

Yellow Bellflower,	English Golden Russet,
White Bellflower,	English or Winter Russet,
Red Romanite,	Rhode Island Greening,
Rawle's Jannet,	Esopus Spitzburgh,
Michael Henry Pippin,	Seeknurther,
Newtown Pippin,	Milam or Harrigan.
Limber Twig,	

E. HARKNESS regards the Vandevere as "valuable on many accounts," and he esteems highly the

Sweet June,	Fall Pippin,
Autumn Swaar,	Fall Wine,
Rambo,	Domine.
Early Harvest,	

The following are rejected:—

Yellow Ingestrie,	Roseau,
Pennock,	Pumpkin Sweet,
Monstrous Pippin,	Dutch Codlin,

With several other varieties, none of which appear to be of much value any where.

Another cultivator regards the Fameuse and Belmont as the best fall apples.

C. R. OVERMAN, of Canton, central Illinois furnishes the following list of 25 varieties:—

Summer.	Sweet June, Carolina Red June, Early Harvest,	Sweet June, Early Red, Trenton Early.

Autumn.	Fameuse, Fall Pippin.

Winter.	White Winter Pearmain, Limber Twig, Red Romanite, Northern Spy, Pryor's Red, Rawle's Jannet, Green Newtown Pippin.

BEAN MEAL FOR MILCH COWS.—We have on former occasions alluded to some trials that have been made in feeding milch cows with bean meal, the results of which seemed to show that it was a highly valuable article. At a late meeting of an English Farmers' Club, it was stated by a member, that nothing was so good for cows in milk, either as regarded the produce of butter or cheese, as bean meal.

EQUINOCTIAL STORMS.—Dr. Ray of Woodward College, kept a record of observations for fourteen years; during this period, ten of the equinoctial days were either clear, or fair and pleasant days; two were partly clear, but more than half cloudy; while the remaining two were entirely cloudy and partly rainy. In addition to this, he found that by taking a period of one whole month, that is two weeks before, and two weeks after the equinox, there were five "bad spells" of weather; while in nine of the years there was no weather that could be called unpleasant.

* In the Prairie Farmer.



THIRD DUKE OF CAMBRIDGE.

New-York State Agricultural Society.

Trial of Plows.

AGRICULTURAL ROOMS.—Meeting Ex. Committee, June 4. Present—E. P. PRENTICE, President; A. VAN BERGEN, Vice President; J. McD. MCINTYRE, H. WENDELL, M. D., LUTHER TUCKER, B. P. JOHNSON, and delegates from Ulster, Oneida, Wayne, Saratoga, Dutchess, Ontario, and Hartford, Conn.

The Judges appointed for the trial were present, as follows:—Hon. A. Van Bergen, Coxsackie; John S. Gould, Hudson; Sanford Howard, Albany; B. B. Kirtland, Greenbush. Absent—J. Delafield. Hon. Peter Crispell, Jr., of Ulster co., was substituted in the place of Mr. Delafield. (A letter was received from Mr. Delafield, expressing his great regret that his engagements in taking the survey of Seneca county, rendered it impracticable for him to be present as he had intended.)

The following competitors entered their plows for trial:—

E. J. BURRALL, Geneva—3 Plows—Shell-wheel Iron Beam, Stiff Soil, and Stubble Plow.

A. GILBERT, New-York—2 Plows—Moor's patent for stiff soils. FRENCH & SMITH, Rome, Oneida co.—3 Plows—Michigan Sod and Subsoil, Michigan Joint Plow, Michigan Plow.

W. U. CHASE, Amsterdam—3 Plows.

A. FLECK, Montreal—Wilkie's Scotch Plow.

N. B. STARBUCK, Troy—5 Plows—Starbuck's Trojan, do. Iron Beam, do. No. 3, do. No. 4, do. Side-hill.

PETER AULD, New Hartford, Oneida co.—2 Plows.

MINER, HORTON & CO., Peekskill—4 Peekskill Plows.

H. L. EMERY, Albany—1 Plow.

BOSWORTH, RICH & CO., Troy—5 Plows—Cast Iron Beam and Sod Plow, Side-hill do., Subsoil do., Stubble do.

JOHN RANDERSON, Schodack—1 Plow.

PROUTY & MEARS, Boston—4 Centre Draft Plows, and Side-hill and Subsoil Plows.

EDDY & CO., Union Village, Washington co.—Washington Co. Plow, Side-hill do., Subsoil do., Grubber do., Stubble do.

R. R. FINCH & CO., Peekskill—2 Empire Plows.

Making upwards of 40 plows entered for the trial.

The trial commenced on Tuesday, June 4, on the farm of J. J. Lansing, Greenbush. The stubble, or old land, was first plowed. For this 14 plows were entered, viz:—Fleck's Wilkie Plow, French & Smith's Michigan Plow, Eddy's Washington Co., Randerson's Schodack Plow, Miner & Horton's Peekskill Plow, Starbuck's Trojan Plow, Auld's "improved" Scotch Plow, Prouty & Mear's Two Centre Draught Plows, Bosworth, Rich & Co.'s Iron Beam, Finch's Empire Plow, Emery's Albany Plow, Burrall's Shell-wheel Plow, Chase's Amsterdam Plow. The trial of these plows occupied the judges until Thursday. On Thursday, 3 Side-hill plows—Prouty's, Rich's and Eddy's, and also 2 Subsoil plows, Prouty's & Rich's, were tested. On Friday, 26 plows were entered for sod land—*Stiff soil*; viz., 3 by Prouty & Co., 3 by Miner, Horton & Co., 4 by Bosworth, Rich & Co., 3 by French & Smith, 1 by Emery, 2 by Chase, 1 by Burrall, 1 by Eddy & Co., 1 by Randerson, 3 by Starbuck & Co., 2 by Finch, 2 by Gilbert, 1 by Fleck, and 1 by Auld.

The trial of these plows was completed on Saturday afternoon.

On Tuesday, June 11th, the trial on *Sandy* soils commenced on the Island opposite the city, above the Boston Railroad Depot. For this trial 24 plows were entered, all of which were tested, and the trial completed on Wednesday afternoon.

All the plows were tested upon each of the lands with the dynamometer, the same team being used for each plow, so as to secure as near as possible, an equal draught, so far as the team was concerned—the plows being gauged to cut furrows as near as possible of an equal depth and width. Wherever there were variations, they were noted by the judg-

es, and will be taken into consideration in making up their final award.

In addition to testing the draft while plowing the different kinds of soil, the plows were also tested with the dynamometer, by hand power, operated by a windlass. This gave a steady and uniform motion, and secured a fair test of the power required to draw each plow—the soil and turf as nearly equal as it was possible to obtain it.

It has been the object of the Executive Committee to have this trial as full and complete as it was possible to make it, so that another trial could not be necessary, unless some new and important improvements should be developed. They are not aware that anything has been overlooked on their part or on the part of the judges, that would have made the trial more perfect, and it gives them great pleasure to be assured by the competitors, and other distinguished plow manufacturers in the country who were present, that their arrangements were in all respects satisfactory, and the best calculated to elicit the qualities of the various plows, of any that they had ever witnessed.

Every plow that was presented, has been tested, it is believed to the full satisfaction of the competitors. The exhibition of plows has probably never been equalled. Such has been the expression given by gentlemen, both manufacturers and others, who have examined the plows presented and tested, as well as the work performed by each. For durability, neatness of workmanship and material, the perfection of finish, the adaptation to perform the work of the farmer, it is confidently believed that so fine a display has not before been seen in an equal number of plows. The work performed by all of the plows has been such as to merit and receive the approbation of the great number of persons who have been in attendance upon the trial.

The awards of the judges will be made as soon practicable, consistent with a due and careful examination of every question that has a bearing upon the subject. The importance of their decisions is apparent, and the subject will receive at their hands, all that deliberate and careful consideration which it demands. When the awards are made, they will be announced to the successful competitors, and will be made known to the public, probably, at the Annual Fair of the Society in September, when it will be necessary for the plows to which the premiums have been awarded to be on the grounds, if not already deposited in the Museum of the Society.

B. P. JOHNSON, Sec'y.

The Farmer's Note-Book.

Short Horn bull 3d Duke of Cambridge.

THE engraving on the opposite page is designed to represent the Short-horn bull 3d Duke of Cambridge, at present the property of J. M. SHERWOOD, of Auburn, and A. STEVENS, of New-York by whom he was imported from England. His pedigree as given in the fourth volume of the Herd Book, page 614, is as follows: 3d Duke of Cambridge (5,941,) roan, calved September 14, 1841, bred by Thomas Bates; got by Duke of Northumberland (1,940,) dam Waterloo 2d, by Belvidere (1,706,) grand-dam by Waterloo (2,816,) great grand-dam by Waterloo (2,816.)

This animal was imported in 1849, together with several heifers, and a notice of them was given in our last volume, page 130. He is a bull of rare excellence, both as regards shape and quality. He

received the first premium as the best Short-horn bull over three years old, at the show of the New-York State Agricultural Society at Syracuse. Two of the heifers imported with him, received the two highest prizes in their class.

A Sheep Question.

EDS. CULTIVATOR—In your March number, at the conclusion of your article on the "Varieties of the Merino," you say, "Now as regards the production of wool, what variety would yield the greatest profit under these circumstances? In answering this question, it is not sufficient to refer to the weight of the fleece, and to the price it would bring in market, or to the aggregate amount of money which each sheep annually affords. Nor can it be fully determined by a comparison of the net proceeds afforded by the wool of different kinds, in proportion to the weight of carcass—although it is admitted that this would be an approximation towards the result. But who has ever made a fair and reliable trial of this kind?"

On turning to Morrell's American Shepherd, I find some light on these questions, which, to me, is pretty conclusive. On pages 229 and 243, under the head of Winter Management of Sheep, will be found the following table and remarks:—

"Veit was Professor of Agriculture in the Royal Institute of Bavaria, and his work is full of experiments and calculations at that seat of Ag. Science. He makes the following observations:—The need of fodder is proportioned to the weight of the sheep, and two and a-half pounds of the *value of hay* is required daily for every 100 lbs. live weight, to keep the animal in a profitable state. Hence the following amount of fodder is required:

For a long wool German sheep, his weight 100 lbs.,	2.50	daily.
Infantado Merino, do 88 "	2.20	"
Grade Saxons, do 75 "	1.87	"
Electoral Saxons, (pure,) do 62 "	1.55	"

In connection with this table, Mr. Morrell quotes from Spooner's English work on Sheep—"An ox requires 2 per cent. of his live weight in hay per day; if he works, he requires $2\frac{1}{2}$ per cent.; a milch cow 3 per cent.; a fatting ox, 5 per cent. at first, $4\frac{1}{2}$ per cent. when half fat, and only 4 per cent. when fat. Grown sheep take up $3\frac{1}{2}$ per cent. of their weight in hay per day, to keep in store condition." It must be understood by the reader that, in this estimate as well as all others, good hay is the standard of nutriment, and that if any grain or other food is used as an equivalent, allowance must be made for the quantity of hay accordingly."

On page 243 are the following comments on the above:—"Now we will suppose, taking Veit's statement as the standard, that the average weight of a flock of sheep is 80 lbs. per head, and the feeding 150 days; this will give 2 lbs. daily to each, and for 150 days 300 lbs., and consequently for that period 100 will eat 30,000 lbs., or 15 tons.

"This certainly seems a low estimate as to the quantity a sheep requires daily, it being 66-100ths less than the English standard, as rendered by Mr. Spooner. But different breeds and their subdivisions vary so materially in weight, that to form a correct estimate, the sheep master should weigh some of each of different ages of his flock, and by classifying them according to their relative size, he may feed with greater accuracy. He must remember, however, that sheep when growing, of any breed, require as much food as when they have arrived at maturity; and growing sheep should never be stinted.

"Another important consideration must not be lost sight of, namely, the *quality of the hay*. If it is coarse, much of it the sheep will reject; and consequently an allowance of from 10 to 25 per cent. must be made accordingly. It is for this reason, old meadows produce a better quality of hay than new; that from the former being finer, and more miscellaneous. Sheep are very fond of clover hay, and will increase more rapidly in flesh if it is provided for them, than by any other description; but the quantity in bulk, comparatively, they require of it, is enormous.

"From the above premises, we are enabled to deduce an exceedingly important fact, which, if always duly considered, will be the means of avoiding the serious blunders hitherto so frequently committed by American breeders, namely, *that it requires an equal amount of food to produce a pound of flesh, or a pound of wool, without regard to the size of the sheep, or the breed*. This is indeed a truism, and therefore self evident. But by way of illustrating the point, let us select one of each of the rival breeds of England—the South Down and Leicester; we will suppose the live weight of the former, when in store condition, to be 100 lbs., and that of the Leicester or Bakewell, 150 lbs., which is probably, in general, the relative disproportion. Now it is clear, taking the estimate of Mr. Spooner, the Down sheep will consume $3\frac{1}{2}$ lbs. of hay daily, while the Leicester will need about 5 lbs. Is the latter, however, more or less profitable than the Down? Clearly there is no difference, for the offal is relatively the same, and so is the proportion of the valuable parts—the flesh and wool. The expenditure of food for the Leicester is greatly the largest, but only in proportion to the difference of value derived from the additional size of the carcass. Thus it is seen, the pound of everything costs alike, and all circumstances being equal, the profits are the same.*

"But we will go farther, and instance the Merino and Saxon, alike distinguished for wool-growing purposes. The Saxon, it will be remembered, is of the same race, being only a sub-variety of the Merino. Let a selection be made of one of each, which combines to the greatest extent, their perfections respectively. By taking the standard of Veit, as shown in his table, of the live weight of a pure Merino, say 88 lbs., and that of a pure Saxon, say 62 lbs., (which is nearly the comparative weight when pure,) the Merino, if fed at the rate of $2\frac{1}{2}$ lbs. of hay per 100 lbs. of live weight, consumes 2.20 lbs. daily, and the Saxon 1.55 lbs., a difference, it will be noticed, of nearly 40 per cent. less than the Merino. Now, both being supplied with this pro rata of ration daily, the Merinos will produce 40 per cent. more of wool and flesh, at an expenditure, however, of 40 per cent. more of food. Thus it is clear that the pound of wool and flesh, in both cases, costs precisely the same. Hence it may be laid down as a rule by which the unwary may learn, that, after knowing the usual average weight of carcass and fleece of a given breed, if he hears of any very extraordinary individual instances of either, it may be ascribed to extra feeding, and a cost accordingly.

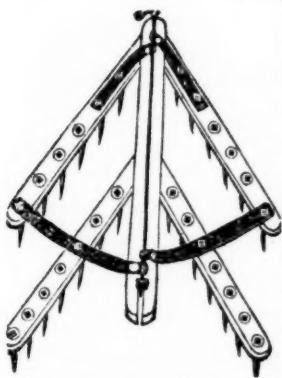
"Let not the reader, however, misapprehend the point in question. The breeds of sheep vary much in the quantity of wool they respectively produce, and individuals of a given breed will often outstrip

* Let it be understood by the reader that the point is *wool* and *flesh*, and not *fat*, which it will readily be conceded that several breeds of animals will gather more rapidly than others, arising either from improved conformation or more quietness of habit.

their fellows, although fed in the same fold, in the amount of wool they will yield. But if two are selected of the same breed and of equal weight, and fed precisely alike, and all other circumstances equal, if one shears a heavier fleece than the other, it will be found, on weighing, to lack an equal amount of flesh, which his comrade has acquired at the expense of his covering. This has arisen from the difference in the assimilation of food—in the one case, more for the formation of wool than the other."

If I understand, Messrs. Editors, anything of animal physiology, I think Mr. Morrell's ideas are about correct, and if you will have the goodness to publish them, it may at least serve to allay the jealousy and warfare between Saxon and Merino breeders. A SHEEP MAN. Venice, N. Y.

Folding Harrow.



This form of harrow was introduced by GEORGE GEDDES, Esq., of Onondaga county, in this state. The cut herewith given combines the general principles of Mr. G.'s harrow, but differs from his in the mode of fastening the teeth. He has the teeth driven through the timber from the upper side, and they hold by their wedge-like form. Those represented by the cut, are let

through the timber from the under side, with a washer below, and a nut and screw on the top; by which the teeth are firmly secured in their places, and the liability of their being loosened or lost, is obviated. This harrow will work well on any kind of ground, but is greatly superior to the common kind on rough land, as its joints enable it to fit the inequalities of the surface. The following table shows the number of teeth in the several sizes, and their prices. In answer to an inquiry, we state that they can be had of H. L. EMERY, Albany.

14 teeth, for one horse,.....	\$8 00
18 teeth, for one or two horses,.....	9 50
22 teeth, for two light horses,.....	11 00
26 teeth, for two heavy horses,.....	13 00
30 teeth, for two or three horses,.....	15 00

The Table-Land of Thibet.

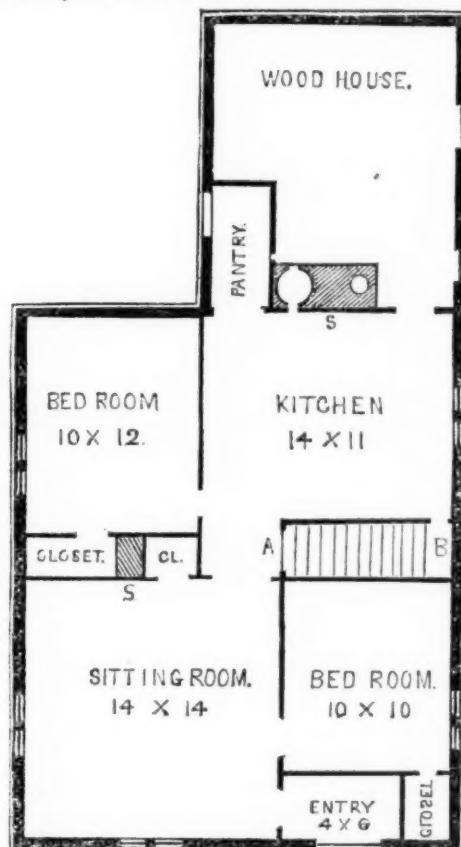
An English traveller, Dr. J. D. HOOKER, who has been for some time engaged in making various observations in Thibet, describes many interesting things in reference to the country and its inhabitants. The Thibetans are a pastoral people, roaming with their flocks and herds during the summer season, from place to place. The animal from which they derive their principal support is a peculiar species of the bovine tribe, called the Yak or Grunting ox. The milk of the females is used by the people for various purposes. It is made into curd, which is eaten with herbs and milk. Butter is also made from the cream; but the mode of churning is, perhaps, as novel as some of the modes for which patents have been granted. Dr. H. describes it as follows:—"They have two kinds of churn; one is a goat-skin in which the cream is encased and beaten, stamped upon, and rolled; the other is an oblong box, a yard in length, full of rhododendron twigs, frosted with butter and—maggots."

The Thibetans have ponies, some of which Dr. H. and his party rode. He says they "never missed a foot," in the worst places. "Sharp rocks,

deep stony torrents, slippery paths, or pitch darkness, were all the same to them." They are described as "sorry looking beasts;" but it is stated that a Thibetan chief who weighed sixteen stone, (or 224 lbs.) rode one down a mountain slope of "thirty miles of rocks, stones and streams," and the animal showed no symptoms of fatigue.

A Mechanic's House.

This is a plan of a house built last year for a mechanic in an adjoining town. It is one story high, 24+28 feet, with an addition 14+16 feet, in which the chimney for the kitchen is built, containing an



oven and arch kettle. There is no fire-place in the house, stoves being preferred. A. cellar stairs, B. chamber stairs, s. s. stoves. There is room in the chamber for 2 good sleeping apartments. The house is built with boardwalls clapboarded outside and plastered inside, making the walls solid, and of course there is no place for rats or mice. The windows are double, each sash containing four lights, each 9 by 14 inches. The cellar is 14 feet square, and 7 feet deep; the walls of split granite, pointed and plastered; the underpinning of split stone laid in the best manner. Whole cost about \$500.

It will be seen that, for a small family, this house is very convenient. There is room enough for all practical purposes, and what is equally important, no waste room. The old fashion of building a large two story house to look at, and putting up a one story addition to live in, is becoming obsolete, and smaller, more tasteful and convenient dwellings are being built instead. If any one has a house built after a better plan than this, I—am glad of it. W. L. EATON. East Weare, N. H.

Chicory or Succory.

Coffee, as prepared for sale in the several countries of Europe, is said to be greatly adulterated by an admixture of the ground root of a plant called chicory. The variety used for this purpose is call-

ed in France, *chiccoree de cafe*. It is supposed to have been derived from Egypt, where, as well as in Arabia, it is much used as human food. The adulteration of coffee by this substance, is thought by some to rather improve than injure the flavor of the coffee, and even to render it more wholesome. The demand for the roots for this purpose, has rendered its cultivation very profitable in certain districts.

The plant is also cultivated for forage, the tender stems and leaves being much relished by cattle and sheep. The plant is perennial, and will, it is said, yield good crops year after year, on the same ground. The *North British Agriculturist* gives the following directions in regard to its cultivation:

"To do justice, it should be sown on clean land, in good condition, to insure a fair return. After the land has received a deep winter furrow, and been twice plowed in spring, and perfectly clear of root weeds, we would recommend it to be sown in drills, at from 11 to 16 inches broad, according to the richness of the soil. The drills may be formed by a neat slight paring plow; from 4 to 5 pounds may sow an acre, as the plants, when left for food, should stand from 4 to 8 inches apart in the row. Some advise not to sow till May, as some of the plants, if sown earlier, may be apt to run to seed the first year. Should the plants be intended to remain for years to yield forage, a few plants running to seed the first season can do little harm. If the stems be cut over before they are far advanced, the root will receive little damage. We have found it a safe practice to sow about the middle of April; but where the root for grinding is the object, as they, in that case, are all to be taken up for use in the autumn, it may be as well to defer sowing till the end of April, after which period few will be found to run to seed the first season."

The best time Cutting Timber.

A pamphlet has been published under the supervision of A. S. ROBERTS, Esq., Corr. Secretary of the Philadelphia Society for Promoting Agriculture, in reference to the best time for cutting timber for fencing and other agricultural purposes. It embraces the substance of letters received from various persons, who had been requested to communicate the results of their observation on this subject. The writers do not profess to found their opinions on experiments conducted in such a manner as to fully settle the question; on the contrary, so far as conclusions are given, they are drawn from such facts as have fallen in the way of the respective individuals. For this reason, it is not, perhaps, strange that they should present great diversity—some being in favor of the winter as the best time, others the spring, others midsummer, and others autumn. Several, perhaps a majority, of the writers are in favor of June, or that part of the season when the bark will most easily peel off. Such has been the conclusion to which our own observation has tended. It may be here suggested as probable, that the general durability of timber cut at this season of the year, is attributable to its being divested of its bark as soon as cut, and exposed at once to the drying influence of the atmosphere, which soon evaporates the moisture, causing so great a shrinkage as effectually to close the pores, rendering it thereafter almost impervious to the agents of decomposition.

Mr. Roberts suggests the propriety of soaking fresh-cut timber in a solution of lime. He thinks the sap might in this way be displaced by a deposit of lime, or that the lime might combine with the

acid of the sap, which would thus be neutralised and rendered inactive. The suggestion is reasonable, and is not unsupported by actual results. Mr. R. quotes from what he considers a "well-written article by an anonymous correspondent" of the *American Agriculturist*, vol. viii, p. 274, in reference to the causes of decay in timber. That article was certainly "well written," and attracted our attention when it appeared *originally* in the London *Gardeners' Chronicle*, by whose editor, the celebrated botanist, Dr. LINDLEY, it was probably written. It had the signature of "B." in the *Agriculturist*.

Strength of Wire.

As the subject of wire fences is now receiving considerable attention, and as inquiry has been made in regard to the strength of different descriptions of wire, we give the following table from an essay which lately received a prize from the Highland and Agricultural Society of Scotland. It shows the number of pounds each of the sizes of various kinds sustained before breaking. The lengths tested were ten feet. The wire called "common" was the ordinary wire of commerce, and is said to be made mostly from the coarser sorts of iron. The "prepared" wire is made from a finer description of iron, is more carefully manufactured, and is superior in quality to the former. "Charcoal" wire is considered the best and strongest of any of the qualities made. It is drawn from iron which is worked chiefly by wood charcoal. The "annealed" wire is considered "the very worst that can be put into a fence. From its being soft, it is readily stretched by any weight or pressure that may be brought to bear against it; and as a consequence is thrown from one side to the other, as stock may happen to touch it." It is said also, to oxydise, or rust more easily than any other kinds.

Common Wire.

No. 8 broke with 590 lbs.	Without perceptibly stretching
No. 6 do. do. 844 do.	
No. 4 do. do. 1269 do.	

Annealed Wire.

No. 8 broke with 605 lbs.—stretched about 4½ inches.
No. 6 do. do. 832 do.—do do 3 do.
No. 4 do. do. 1252 do.—do do 2 do.

Prepared Wire.

No. 8 broke with 955 lbs.—stretched about 1 inch.
No. 6 do. do. 1380 do.—do do ¼ do.
No. 4 do. do. 2163 do.—do do ½ do.

Charcoal Wire.

No. 8 broke with 1274 lbs.	Stretched about the same as prepared wire.
No. 6 do. do. 1762 do.	
No. 4 do. do. 2656 do.	

Good and Bad Management.

During a ride in our county not many weeks ago, I could but notice a noble looking orchard, of a hundred trees, planted more than twenty years ago, by the man who now lives upon it. Yet that orchard hardly produces good fruit enough to supply the family of the owner, and the sour dwarfed fruit is of no particular value for swine or cider. His neighbor not far off has an orchard some five years younger, of about half the size, and in a more unfavorable location; yet he supplies himself and many of his neighbors, and sells enough of his noble pippins and greenings to pay his hired men, and keep his bill for family groceries from accumulating. The secret of all the difference is, the latter man actually expended \$5 in grafting that orchard, and has occasionally expended an hour's labor in pruning and cultivating those grateful trees.

During that ride, I saw a man feeding ten long, lank, lean swine, which will hardly furnish his fami-

ly with pork, bacon and lard, for a twelve month. Before I had travelled five miles farther, I saw another man with seven, about the same age, and he will probably have nearly a ton of pork to sell.

Another man's fences, outbuildings and garden, were a disgrace to the man, a disgrace to the neighborhood, and to the county; while another as greatly honored himself in them all; thus making it apparent to my mind that a man can as signally honor or dishonor himself on a piece of ground only large enough for a garden, as on a farm of 100 or 500 acres.—*R. G. Pardes' Address.*

Dairying in St. Lawrence Co., N. Y.

EDS. CULTIVATOR—Perhaps it may not be uninteresting to many of your readers to hear something from us, especially those at the west, who regard us as almost in the frozen region. I am inclined to think that many of the accounts of products from different parts of the country, that appear in your pages, are among that class of farmers who are both able and willing to expend more in their business than a great majority of farmers are able to do.

I have had 100 acres of land previous to last year. I now have 130 acres; have frequently cut from 70 to 80 or 90 tons of hay, and raised my own grain, and some to spare. My best crop of spring wheat (for I raise no other) 30 bushels per acre—China wheat. Last season was uncommonly dry with us, no rain at all having fallen for many weeks. The hay crop was light, and the pastures were dried up. Meadows after haying, dried and sunburnt—there being no after feed at all. Grain was light. Hay was sold this spring at \$10 per ton, and then was drawn from 5 to 30 miles.

Bear these things in mind, as you read the amount of butter and cheese from my dairy last season. The cheese weighed from the press 8,343 pounds. Butter, twice thoroughly worked, 2,200 pounds. Number of cows in May, 25; bought in June and July, and sold in October. Average number about 28. Averaged nearly 300 pounds of cheese and 80 pounds of butter per cow. I reckon 3 pounds of cheese for each pound of butter, according to the estimate of some Ohio dairymen, which would equal about 534 pounds of cheese per cow.

I should like to hear from other dairymen in our county and in Vermont, through your columns. G. A. HANCHET. *Potsdam, May, 1850.*

On the Height of Corn.

EDS. CULTIVATOR—In the year 1842, I travelled through a portion of the state of Ohio. The season was a poor one for corn. I measured three different fields on the Raccoon creek, in Licking county, and found it thirteen feet high. I was told that on the same soil, it grew sixteen feet in good seasons. I saw a field of two hundred acres on the bank of the Muskingum, near Coshocton, where the height was said to be the same as above.

The largest corn that I saw in my own state, that year, was between Syracuse and Fayetteville. It was eight feet high. This I have found to be the usual height of our best yellow corn in some of our most favorable seasons. There is one remarkable difference between the northern corn and the gourd seed varieties, which are cultivated in Ohio and farther south. The ear of the southern corn unites with the stalk *above* the centre of it, while our northern corn unites with it *below* the centre. C. E. G. Utica.

Sale of the Bates Short-Horns.

The public sale of this noted herd of cattle took place on the 9th of May last, agreeably to previous notice. We have not received a detailed account of the sale, but the following extract from a letter received from L. G. MORRIS, Esq., who attended as a purchaser, will show that several of the animals are to come to this country. The letter is dated Kirkleavington, May 10.

"The great Bates sale took place yesterday. The attendance was from three to five thousand, from almost all parts of the world. The average price was about 63 guineas, the highest price 205, and the lowest priced sound animal was 30 guineas. Mr. Colling's sale reached higher prices, but it was when England was in a more prosperous state than it now is; and the terms of sale more liberal than these.* Mr. Bates' heirs and executors are in chancery, and all business done through a receiver, who made the terms half cash down, and balance on delivery of the animals, which was to take place five or six days at farthest from the date of sale. The risk of the animals *immediately* on being struck down was to be borne by the purchaser. I purchased three head, and Mr. Becar of Smithtown, Long Island, purchased four head. I did not make my purchases until I had examined all the herds of any note in the counties of Yorkshire and Durham, which are the finest Short-horned sections in the world; and even then I did make my final selection until I had *re-examined* Mr. Bates' herd several times. The only animals I bid on, I purchased."

Farming in Rhode Island.

Mr. S. B. HALLIDAY, of Cranston, R. I., gives an account in the *Providence Journal*, of the products of his farm for 1849, from which we take the following. The size of the farm is not stated, nor is the number of cows kept for the dairy, mentioned.

"Of potatoes, I have dug about 1200 bushels; turneps, 1200 bushels; carrots, 600 bushels; parsneps 200 bushels; table beet, 1000 bushels; mangel wurtzel, 500 bushels; spinnach, 300 bushels; tomatoes, 200 bushels; white cabbage, 20,000 heads; savoy cabbage, 25,000 heads; broccoli, 2000 heads; lettuce, 20,000 heads; egg plants, 400; salsify, (oyster plant,) 2000; rhubarb, (pie plant,) 3000 lbs.; asparagus, 1000 lbs.; pickles, 20,000; corn, 2000 bushels, ears; rye, 100 bushels; millet, 20 tons; green rye and clover, 40 tons; English hay, 10 tons; buckwheat, 3 tons; 250 lbs. spinnach seed; 200 lbs. beet seed; 40 lbs. of turnep seed. In addition to this, we raise nearly all our small seeds, such as celery, carrot, radish, &c. The dairy yields for the year, about 20,000 gallons milk."

The Cheese Trade.

HENRY KEMP & Co., of New-York, have issued a circular in which it is stated that the supply of cheese brought to the tide-waters of the Hudson for the year 1849, was 42,097, 818 pounds, against 43,278,526 pounds in 1848. The decrease the past year is attributed to the severe drouth of last summer in Western New-York and Ohio. The export of cheese to Great Britain from New-York, is said to have reached last year 12,000,000 pounds, against 15,386,836 in 1848, being a decrease of one-fifth.

* At the sale of Mr. Charles Colling's herd, in 1810, 47 animals brought £7115.17s. The highest price for bulls was 1000 guineas, for Comet; and the highest price for cows was 410 guineas, for Lily. Another bull, Petrarch, brought 365 guineas; and the cow Countess 400 guineas. EDS.

This decrease is attributed to the inferior quality of the cheese. Of good cheese probably double the amount exported last year would be taken by Great Britain. The receipts of cheese at New-York in 1834 were only about six million pounds, from which they have gone on in a regular gradation of increase to 1848, when 43,278,526 pounds were received. The exports to Great Britain commenced in 1840 with seven hundred thousand pounds, and have increased to fifteen million pounds in 1848.

Water Lime, &c.

EDS. CULTIVATOR—I should like to be informed how water lime, or the common cement used in laying stone to guard against water, will do on wood. Will it do to plaster a coat of it over the roofs of old buildings? If so, what is the mode of preparation? Do you prepare the mortar different from that used in laying stone? I should like advice also on the subject of laying water lime pipe, to conduct water for common watering purposes. What are the advantages and disadvantages of this kind of pipe, as compared with lead pipe? And, lastly, what can I do to prevent plum and cherry trees from blistering, or raising black bunches, and what is the remedy to restore them to soundness? J. A. CHENEY. Cooperstown, May 19, 1850.

Rotation of Crops.

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Keep them in a dry, but not warm place.

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Always keep watch of preserves which are not sealed, especially in warm and damp weather. The only sure way to keep them without risk or care, is to make them with enough sugar and seal them, or tie bladder covers over.

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Water Lime, &c.

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pratense) will probably grow well. If sown by itself, one bushel of seed will be required. Try red-top (*Agrostis*) with white clover (*Trifolium repens*) a bushel of the former with three quarts of the latter. Red-top will also do well to mix with clover for hay. Sow the medium or southern clover, ten pounds to the acre, with half a bushel of red-top seed. Timothy, as you say, is inclined to die out on very dry land, and none of the grasses will last as long here as in soil that is more moist. For shady or wood-land pastures, sow Kentucky blue-grass, and orchard-grass (*Dactylis glomerata*). If mixed together, use half a bushel of the former with a bushel of the latter.

Facts and Opinions.

(Condensed from Books and Papers.)

SUBSOIL PLOWING. — A correspondent of the *Agricultural Gazette* says he formerly made a point of plowing at least ten inches deep when preparing for turnips; but he is more successful in growing them by keeping the manured soil near the surface, and loosening the substratum with the subsoil plow, going about seven inches deep with the first plow.

FOUR CALVES AT A BIRTH. — B. GATES, of Meriwether county, Georgia, writes to the *Columbus Inquirer*, that on the 9th of February a cow of his brought forth four female calves, all alive and well. Two calves at a birth are not uncommon, three are very rare, but four are so far out of the usual course, that the occurrence deserves to be recorded.

A VALUABLE COW. — HENRY JENNISON, of West Newton, Mass., gives the *Plowman* an account of the product of his cow for one year, or from April 2d, 1848, to the same period in 1849. First, he sold her calf at four weeks old for six dollars, then thirty gallons of milk at ten cents per gallon; made three hundred and sixty-eight pounds of butter, which sold on an average at twenty-four and a-half cents per pound; during winter sold twenty-four gallons of milk at fourteen cents per gallon. No estimate was made of milk used in a family of three persons. The cow had one acre of pasture, and was fed with one quart of meal per day for two months, with green corn in the driest of the season; and after haying, was turned into "full feed." The income may be stated thus:

Calf,	\$ 6 00
30 gallons milk,	3 00
368 lbs. butter,	90 06
24 gallons milk,	3 36
<hr/>	
\$102 42	

NEW JERSEY MARLS. — It is well known that certain sections of New Jersey have been greatly improved in regard to the productiveness of the soil, by the application of marl. In Monmouth county, according to Professor MAPES, in the *Working Farmer*, "lands which ten years ago were worth but ten dollars per acre, are now producing large crops, simply by coating them with a few bushels of marl, taken from within a few feet of the surface." This marl we understand to be what is called *green sand*. Professor M. states that some of it contains 13 per cent of potash, and that the quantity required to fertilize an acre, does not exceed one hundred bushels. Some of the marls, however, are said to contain an excess of sulphate of iron, and when they are applied in large quantities, injure vegetation. Professor M. observes "that the continued

use of marl, while it supplies many of the inorganic constituents of plants, must eventually cause the disappearance from the soil of all its inorganic matter, and hence the necessity of its renewal from time to time by the additions of decomposed peat, turf, river mud, and other organic matters."

SOUND ADVICE. — Rev. MORRILL ALLEN, in resigning his post as president of the Plymouth, Mass., Agricultural Society, says—"My strong desire that your future labors may be attended with distinguished success, prompts a caution against concentrating efforts in a few specific and favorite objects; let every branch of the farmer's interest attract attention, and in the just measure be taken under your patronage. Endeavor to walk in the light of science, but prize cheaply theories not reducible to practice. In the numerous speculations on various agricultural topics, which abound at the present time, we are in danger, without great caution, of being led into errors. Speculative minds in the ardor of inquiry, often forget that in practical life facts should always take precedence of theories. Use with vigilant care the varied means of scientific improvement now enjoyed, and practical improvement will be proportionably accelerated."

FIRST COUNTY AGRICULTURAL SOCIETY IN THE STATE OF NEW YORK. — By the following paragraph from a "Historical sketch of the Village of Watertown," given in the *Business Directory* for that place, published by N. L. BURDICK, it appears that Jefferson county was the first in the State to establish an Agricultural Society. It has been kept up with great spirit, and has been an important instrument in advancing the prosperity of that enterprising county:—"The agricultural interest of Jefferson embarked early in measures to elevate the important labors of that branch of industry to a higher scale of efficiency and usefulness. In 1818, in Watertown, in a building on the site of the American, was organised the first County Agricultural Society ever established in this State. JAMES DE LE RAY CHAUMONT delivered the address. That distinguished statesman and patron of learning, public improvement, and agriculture, DE WITT CLINTON, was also present, and spoke in support of the views and objects of the Society. Guided and sustained by the sagacity and public spirit of the farmers of this county, the society has continued to flourish, and its annual fairs will not suffer by comparison with similar exhibitions throughout the State."

EXPLOSION OF AIR-TIGHT STOVES. — Prof. HORSFORD, in a paper lately read before the "American Academy of Arts and Sciences," thus explained the phenomenon of the explosion of the so-called air-tight stoves. It is proper to remark that these accidents are latterly of rare occurrence, and with the self-regulating valve, which is now attached to the best of these stoves, it is believed such accidents would never happen. "After the wood has been fired, and the supply of air for some time shut off, on re-opening the draft, and sometimes without, occasional explosions of great violence have occurred, attended with the blowing out of the stove door, and in some instances producing still greater injury to the stove. The probable explanation is this. After firing the wood and shutting off the draft, destructive distillation commences. Inflammable gases issue from the wood, which, mingling with air derived from the pipe or remaining still unconsumed, furnish an explosive mixture, which the first jet of flame, or perhaps the incandescent coal, causes to explode."

Notes for the Month.

COMMUNICATIONS have come to hand, during the past month as follows: J. A. Cheney, A Subscriber, J. W. G., An Experienced Farmer, D. T., James Tufts, W. L. Chambers, H. Wether-wax, G. A. Hanchett, An Old Farmer, A Subscriber, L. Durand.

Books, PAMPHLETS, &c., have been received as follows:

The Philosophy of Electrical Psychology, by JOHN B. DODS—from the publishers, FOWLER & WELLS, New-York.
Analysis of the Apple, by J. H. SALISBURY, M. D.—and Analysis of the Rhubarb, by the same—16 pages Svo.—from the Author.
First Report of the Geology of Alabama, by Prof. M. M. TUOMEY, Geologist to the State, &c., from GOV. COLLIER.
Report of the Maryland State Agricultural Chemist, JAMES HIGGINS, M. D., for the past year.
Fourth Report of the Board of Agriculture of Ohio, from J. L. COX, Esq., Zanesville.

A. B.—We shall be glad to have you continue the subject, as you propose.

THE AMERICAN FRUIT CULTURIST.—This work has been mailed to every agent entitled to it by our terms. The postmaster at Philadelphia stopped those which should have passed through his office, on the ground that books had no right to go by mail. He, however, informs us that he has, at our request, forwarded the copies which were detained at his office. But if any person entitled to the work, has failed to receive it, we will forward a second copy on being apprised of the failure.

CORRECTION.—In our last, the price of Professor NORTON's "Elements of Scientific Agriculture," was stated at 75 cents. It should have been 50 cents.

THE PLOW, LOOM, AND ANVIL.—The third volume of this periodical commences with August. The well-known industry and energy of its editor, J. S. SKINNER, Esq., continue unrelaxed, and its pages are well filled with useful matter. It is published monthly, at \$2 a year, in advance. J. S. SKINNER, Philadelphia, Editor and Publisher. See advertisement.

THE DIFFERENCE.—Mr. J. S. CRAIG, of Madison, Ind., speaking of the failure of the wheat crop in his neighborhood, last year, says—"One man told me he had sown six bushels, and did not gather the amount of the seed. I replied, 'I have done better than that, my crop having averaged 15 bushels per acre; to which he said—'O, a poor man, with a large family, can't afford to put his land in such nice order as you had yours; but,' said I, 'the chief difference between us is, I feed my corn fodder in the stables and yards, you feed your's in the roads and lanes.' Would you believe it! I have three adjoining neighbors, who feed their cattle in the road and lanes, if it happens to be in the most convenient place, and don't seem to care about the loss of manure. Yet their rotation is corn, oats, wheat, without allowing the land any rest in clover or grass, and giving it but very little manure, till it has almost refused to produce wheat. I find, now, the opinion is almost universal, that it is useless to sow wheat, without manuring the land in some way."

BREED OF SWINE.—Mr. O. F. MARSHALL, of Wheeler, Steuben co., N. Y., writes: "We have a peculiar kind of hogs in this section, which have been bred here over 50 years. They became nearly extinct about the time the Berkshires were so popular; but we have, with a good deal of exertion, restored them about as pure as formerly. They are similar

in shape to the Berkshires, but their color is red or sandy, and they have very fine hair. When pure-blooded, the tails of the pigs come off, when about three or four weeks old. They were introduced here by the late judge Hammond, father of S. H. Hammond, Esq., district attorney for Albany county."

AGRICULTURAL SCHOOL IN MASSACHUSETTS.—The following gentlemen have been appointed by the Governor of Massachusetts commissioners on the subject of an agricultural school, viz: Hon. M. P. WILDER, Dorchester; Rev. Dr. EDWARD HITCHCOCK, President of Amherst College; SAMUEL A. ELIOT, of Boston; ELI WARREN, of Upton; and THOMAS E. PAYSON, of Rowley.

TRANSPLANTING LOCUST TREES.—A correspondent informs us that the sprouts of locust trees, if taken up in the spring, and set in open places in the woods, will grow well, and become valuable for timber. We have heard it said that locust trees planted in this way are not likely to be attacked by the borer.

OFF The figure of "Third Duke of Cambridge," given in our present number, was engraved for the forthcoming volume of the Transactions of the New York Agricultural Society. We are authorized to say that this volume, the publication of which has been unavoidably delayed, will shortly make its appearance.

ROYAL AGRICULTURAL SOCIETY.—The Council of this Society have made arrangements to hold their annual show of cattle for 1851, in Hyde Park, in connection with the Exhibition of the Works of Industry of all Nations. The usual show of implements by the Society will be omitted on that occasion, as the Exhibition will comprise a similar department. The show of the Royal Society for the present year will be held at Exeter in July, commencing on the 15th. This Society at the present time comprises 5,261 members: namely, 90 life governors, 169 annual governors, 267 life members, 4,356 annual members, and 19 honorary members.

CORRECTION.—In the communication of "A. S. F." in our May number (pp. 181, 182,) it was stated that chloride of lime was used for seed corn, in the proportion of half of the former to a bushel of the latter. It should have been *half a pound* to a bushel of seed; and the distance between the corn-rows should have been *three* instead of three and a half feet.

TAX ON DOGS.—It is well known that the keeping of sheep in Ohio has been attended with heavy losses in many instances, on account of their destruction by dogs. After several ineffectual attempts to procure the passage of a law by the legislature, authorizing a tax on dogs, an act was passed at the last session, authorizing seventeen counties to collect the sum of fifty cents a year from every person who owns or keeps one dog, and one dollar for each additional dog kept by the same person. One-half of the money raised by this tax is to go to the common school fund, and the remainder is to be set apart to compensate persons sustaining losses by having sheep killed by dogs.

THIBET SHEEP.—PRINCE ALBERT has sent a communication to the Council of the Royal Agricultural Society, giving the results of an attempt to naturalize a hardy and prolific race of sheep from Thibet, at her Majesty's farm at Osborne.

"LIONIZING."—THOS. D. BURRALL, Esq., in his address before the Ontario county Agricultural Society, observes—"The whole system of *lionizing*,

and *running after sights* is a national vice which has too often made us ridiculous, and which should especially be avoided at our *Fairs*, lest they eventually become so mixed up with new additions as to have nothing left to the farmer but the name. They should look to this in time, and never forget to respect themselves and protect their interests. Ever bearing in mind that as a class they form an important part of the great conservative power of the State, and that they are bound to make that power felt and respected."

NEW WORK.—Messrs. DERBY & MILLER, book-sellers, Auburn, will issue soon a new work on rural affairs, entitled "The Farmer's Every Day Book; or, Sketches of Social Life in the Country, with the Popular Elements of Practical and Theoretic Agriculture, and 1,200 Laconies and Apothegms relating to Ethics, Religion, and General Literature; also 500 receipts on Hygeian, Domestic and Rural Economy.

"Would you be strong? Go follow up the plough;
Would you be thoughtful? Study fields and flowers;
Would you be wise? Take on yourself a vow,
To go to school in Nature's sunny bower.
Fly from the city, nothing there can charm—
Seek wisdom, strength and virtue on a farm."

We intended to have given a chapter from it this month, on "The Commercial Importance of Agriculture," but are under the necessity of deferring it. From the high character of the author, as well as from the few pages we have seen of the work, we have no doubt it will have an extensive sale.

THE ONEIDA COUNTY AGRICULTURAL SOCIETY will hold its next fair at Rome, on the 17th, 18th, and 19th days of September. This, we believe, is the first instance of one of our county fairs continuing three days, and we are glad to see that the farmers of this rich and fertile county take sufficient interest in the subject to warrant a three-day fair. BENJ. N. HUNTINGTON, Rome, President. L. T. MARSHALL, Vernon Center, Secretary.

LONG ISLAND LANDS.—The attention of farmers intending to change their location, is particularly invited to the advertisement of Dr. PECK, setting forth the inducements offered by the lands on Long Island.

PRICE OF MUSTARD SEED.—The editor of the *Ohio Cultivator* states that 6½ cents per pound is the price at which manufacturers in Ohio are willing to contract for good seed, next fall. A letter is published from Messrs. FELL, of Philadelphia, stating that owing to the fluctuations in the market, and generally low prices, they do not recommend the cultivation of mustard on a large scale, to the western farmers, especially, "as long as the foreign seed is admitted at the present rate of duty."

HEAVY PIGS.—BENJ. LYMAN, of Columbia, Ct., gives the *Mass. Plowman* an account of the weight of several pigs killed in that town since the first of December last, as follows:

Hubbard Barstow killed a pig 8 months old, weight 360 lbs.
Jonathan Clark " 9 " 387 "
John Davenport " 8½ " 390 "
John Ticknor killed an old hog, " 610 "

ANIMALCULES ON HUMAN TEETH.—Dr. H. J. BOWDITCH, of Cambridge, Mass., states as the result of many microscopic examinations of the accumulations on the teeth of healthy persons, that of forty-nine individuals, most of whom were very particular in the care of their teeth, animal and vegetable products were found in every instance except two. In those cases the brush was used three times a day, and a thread was passed between the teeth daily. Windsor soap was also used by one of these

two persons, with the brush. Dr. Bowditch tried the effect of various substances, in destroying the animalcules, and especially tobacco, by which they seemed to be in no way incommoded. Soapsuds and chlorine toothwash invariably destroyed them.

INDUSTRIAL EXHIBITION OF 1851.—Preparations are already in progress for the transmission of the productions of American genius and ingenuity to the approaching great Industrial Exhibition which takes place in 1851 in London. A meeting of the Central Committee for the United States convened at the National Institute, in the Patent Office, Washington, on Thursday, the 13th ult., Hon. Millard Fillmore presiding, and Prof. W. R. Johnson acting as secretary. Among the various communications read at the meeting, was one from the secretary of a former meeting, held on the 27th of last month, containing the names of those appointed on the Central Committee, among which are the following: Hon. Millard Fillmore, Hon. Levi Woodbury, Professors Joseph Henry and Alex. D. Bache, Com. C. Wilkes, Lieut. M. F. Maury, Col. J. J. Abert, and Thos. Ewbank, and others, 21 in number.—*N. Y. Evening Post.*

RED CEDAR POSTS.—All kinds of Cedar are known to be very durable, but the heart of red cedar is perhaps, preferable on this account, to any other kind, and those parts of the tree which are most knotty, will probably last longest. E. BOURNE, in the *Mass. Plowman*, states that on examining some red cedar posts set by his father 48 years since, he found those which were taken from the butt-end of the tree, a little decayed on the outside; but those from the second and third cuts of the tree, were perfectly sound.

PROFITS OF FOWLS.—BRADFORD PACKARD, of West Bridgewater, Mass., states in the *Plowman* that he kept an accurate account with twenty fowls, (eighteen hens and two cocks,) for one year, from January 1st, 1849. He obtained 2434 eggs, the average price of which was fourteen cents per dozen, making \$28.90; he raised twelve chickens, valued at 25 cents each, giving an aggregate of \$31.89. The food the fowls ate during this time was 15 bushels of corn, which cost \$10.89, leaving a net profit of \$21.01.

TO DECOY RATS.—Mix a shilling's worth of Spanish flies in a pint of the best French brandy, cork it well, and after shaking, let it stand six weeks, and it will be fit for use. A few drops of this liquid is said to entice the rats from their holes into any kind of trap.

Wool Market—June 19, 1850.

The shearing has actively progressed for the two past weeks, and is now nearly completed, excepting in the northern portion of this and some of the Eastern States. The appearance of a much dreaded epidemic in the spring of 1849, caused a general paralysis in the business of the country, and greatly aided in depressing the prices of wool, more particularly in the Western States. The absence of cholera, general prosperity of most business pursuits, and abundance of money facilities in the large northern and eastern cities, have produced a very different feeling in regard to the clip of 1850, and especially in the Western States, as contrasted with 1849, although the prices of cloths are about the same now as one year ago. The advance of wools in the Northern and Eastern States, compared with 1849, is from 2 to 3c.; while in Ohio, Michigan, and other Western States, it is from 4 to 6c. per lb. The excitement in the Western market has been and still is very great, growing out of the competition amongst buyers, in combination with the causes above-mentioned; and purchases have been made on speculation at so high rates, as to leave no margin for profits; and it will be fortunate if, in many instances, actual losses are not sustained. No reliable estimate can be made of the quantity of wool shorn, until near the close of the year. The opening prices, so far as they can now be ascertained, are as follows:

Common to $\frac{1}{2}$ blood Merino,	25a27c.
" to $\frac{3}{4}$ do.	25a30c.
" to full do.	31a35c.
Full blood Saxon,	36a40c

Prices of Agricultural Products.

[Review of the Market for the last month.]

ALBANY, JUNE 20, 1850.

FLOUR.—Since our last report there has been a good steady trade, and Eastern demand for flour, but with little or no speculative movement. The upper tendency of quotations noticed in our May report, continued till the early part of the present month, when for a day or two the market became weaker, but subsequently rallied again. This fluctuation which has been regulated solely by the tone of the N. Y. Market, is ascribed on the one hand mainly to the uncertain character of the reports of probable receipts from the West, which hitherto have proved larger than was anticipated, and on the other to the active demand at that market for the Eastern trade, for New Orleans, and for Canadian, and low grade State flour for the British Provinces. The market here may be quoted at \$5.44 $\frac{1}{2}$ for \$5.50 $\frac{1}{2}$ for ordinary to good state, \$5.62 $\frac{1}{2}$ for mixed western, \$5.69 $\frac{1}{2}$ for straight do., \$5.87 $\frac{1}{2}$ for fancy do. and state from good Western Wheat, \$6.61 $\frac{1}{2}$ for Genesee, \$6.12 $\frac{1}{2}$ for fancy Genesee and Ohio, \$6.37 $\frac{1}{2}$ for extra Genesee. These quotations show a considerable advance upon those given in our May report. The stock of flour here is good, consisting principally of the better brands of State and Western flour.

GRAIN.—The supplies of prime Genesee wheat during the month, although larger than those of the previous month, have been small; the milling demand for these descriptions has been good, taking all offering at an advance of 16c. on the closing quotations in our May report; the sales are 13,000 bushels principally Genesee, at 11c. for Wisconsin to arrive, 13c. for Mediterranean, and including some 10,000 bushels Genesee at 13 $\frac{1}{2}$ to 15c., the market today being very firm at 15c. for prime Genesee, and 14c. for a prime lot of Lancaster Co., Penn., both to arrive within a day or so, with a good demand, buyers offering 14c. for Genesee. In corn there has been a good demand which has been checked by the light receipts. The supplies which have been kept back several days by the break at Bushnell's Basin, are now coming in, and a more active market is anticipated. The improving tendency noticed in this article in our May report, continued to the 1st inst., when Northern round Yellow sold at 60c. and Western mixed at a trifle off that figure; the market retained its firmness for some days, but for want of supplies nothing was done; and after the receipt of the unfavorable advices from Europe, by the Atlantic on the 9th, and the Canada on the 13th inst., prices gradually fell off, the market closing yesterday at 60c. for Western low and high mixed, and 60 $\frac{1}{2}$ for flat yellow. Northern Yellow round unless in prime condition is not taken, and may be quoted at 62c. numerically. The sales since our last are 200,000 bush. including 25,000 bush. Western mixed, reported sold yesterday for delivery in all August at 56c., and 20,000 do. in two lots on the 28th ult. to arrive, at 66c. The tendency of the market at the close, was to a further decline. Rye has been more active, and prices have varied with the quotations of other grains. The market has ranged from 62c. to 65c. which latter point it reached on the 31st ult., and subsequently declined to 60c., at which figure it sold on the 18th inst. The sales of canal are 25,000 bush. In barley we notice sales of about 6,000 bush., two rowed at 65c. Oats have been active, with a good speculative demand; the sales here and to arrive, since our last, have reached 120,000 bush., including 40,000 bush. to arrive on private terms. The balance taken in lots as they arrived, closing at 47c., with a steady demand. The highest figure obtained since our last report, was on the 1st and 2d inst., when 52c. was paid.

FEED.—The high price of the coarse grains has produced a demand for feed; the inquiry is good, but the high figures asked restrict sales. The transactions are about 30,000 bush.; 13c. for bran, 15c. for shorts, 17c. for Port Byron shorts, 19c. for second quality fine feed, and 10c. for middlings.

SALT.—The sales of bag salt embrace 22,000 bags at 11c.; barrels are lower, and sell to some extent at 10c. to 10c.; we also notice sales of 300 to 400 sacks, Liverpool at 13c. per sack.

WHISKEY.—The limited quantity offering restricts sales. The transactions reported are about 900 bbls. The market is now dull at 25c., at which figure the last sales were made. Buyers offer only 24c. for S. P. The highest quotation reached this month was 26c.

WOOL.—The sales since our last report have been very limited; some 10,000 lbs. were taken at 34c. for super., and 31c. for No. 1 pulled. The lots of the new clip offering in the street are taken at 26c. to 34c., according to grade.

PROVISIONS.—The sales of Mess Pork during the month have been about 500 bbls. Stale Mess, principally on private terms, and part at \$12.25 to \$12.50 for State Mess, and \$11 for Western. Beef Hams \$15.50, with sales 106 bbls. The sales of cut meats have been to a fair extent; the transactions add up some 80,000 lbs. at 8c. for smoked hams; and 4 $\frac{1}{2}$ to 5c. for do. shoulders. There have been further sales of live hogs at 3 $\frac{1}{2}$ to 3 $\frac{1}{2}$ c.

Morgan Horse General Gifford.

THIS justly celebrated horse will stand the coming season at Lodi Village, Seneca County, N. Y. He was got by Old Gifford Morgan, out of a pure Morgan mare. In his size, color, form and action, he closely resembles his distinguished sire, and is one of the very best specimens of this invaluable race of horses.

Terms of insurance, \$12.

Good pasture provided at the usual rates, and all necessary attention given to mares from a distance.

Accidents and escapes at the risk of the owners.

May 1, 1850.—3t.

CHARLES W. INGERSOLL.

The Plow, the Loom and the Anvil

IS a Monthly Journal of never less than 64 pages, beautifully printed, on the best paper, and conducted by J. S. SKINNER, founder of the first agricultural journal published in the United States.

The object of this journal is to teach the Farmer and the Planter, not only what is transpiring to improve practical agriculture, but to prove to them, by argument and illustration, how the prosperity of American Agriculture is blended with, and promoted by, the prosperity of all other Industrial pursuits in our own country.

The following are taken from hundreds of the like, to show the bearing and merits of the work.

The July (1850) number will be the first of the next (third) volume, and will be a good time for subscribers to commence. Back volumes to be had.

P. S.—Particular attention is paid to the woolen and iron interests as connected with Agriculture.

Hillsborough, Ohio, 6th February, 1850.

* * * I will only add that the zeal and ability with which "the Plough, the Loom, and the Anvil," has been conducted thus far, and the promise it affords for the triumph of the principles it advocates, demand of its patrons, and the friends of protection and national prosperity and independence, everywhere, renewed and more persevering efforts to extend its circulation, and, as I would not recommend others to do what I would not do myself, I engage and hereby pledge myself to be one of 1000, or 100, to procure five new subscribers to "The Plough, the Loom, and the Anvil," and in default, take that number myself, for gratuitous distribution.

I have the honor to be, Very respectfully,
ALLEN TRIMBLE.

NOTE.—The words in *italics* emphasised by the writer.

Mr. Phinney, writer of the following, is well known as one of the most accomplished and practical farmers in New England:

Lexington, Mass.

As for my opinion of your new work, "The Plough, the Loom, and the Anvil." In the first place, I have been actually astonished that one hand and head could do so much. I want more time than is allowed me in the day and night hurry of court business to express my views of a work so broad in its range, and so eminently calculated to be of great utility to the interests of the *whole country*. I most sincerely believe it will do more to promote the cause of agriculture, to give a healthy tone to the great body politic, and to reconcile conflicting parties than all the noisy declamations of hot-bed politicians. In short, it is *just what the country wants*, and must convince every owner of land, that if he would thrive by the plough, it must be by bringing it into proximity with the loom and anvil.

I had not seen a single number of the work till I received the seven numbers forwarded by you, and regret that I have so long been deprived of the pleasure of perusing its interesting pages.

Every New England man, woman and child, owes you a debt of gratitude that should at all times secure to you open doors and open hearts.

With kindest wishes, that you may for a long time to come be enabled to pursue your useful labors, I am, very sincerely, your friend,

E. PHINNEY.

Senate U. S., Washington.

I was much gratified at the perusal of your speech (at Middletown, Connecticut,) which exposed the fallacies of our free trade politicians. The true cause of the depression of agriculture in our country is to be found in the fact that we purchase and pay for immense quantities of foreign bread, meat and vegetables, when we pay for the articles manufactured abroad which we consume. I trust your labors may open the minds of our farmers to this truth. Let them see that when they wear a coat made of British broadcloth, they must pay for the food the manufacturer consumed while engaged in making the cloth. With great respect, your obedient servant,

J. R. UNDERWOOD,

Of Kentucky.

To the Editor of the Plough, the Loom, and the Anvil.

EXTRACT FROM HOLLIDAYSEURGH, PA.,
9th March, 1850.

I wish your "Plough, Loom, and Anvil" was read by every farmer in our country; it would be a perfect panacea for many of the evils with which we are oppressed. It would produce as great a sensation as fire in a barn among rats. But there is a good time coming, there is every now and then a star appearing in the horizon that did not previously exist. I hope to be able to do something to advance the interests of your journal, but can't promise to enter Governor Trimble's list, as too many of our farmers would rather read political squibs, than anything that concerned their calling.

Yours respectfully,

JOSEPH DYSART.

Nashville, Dec. 30, 1849.

Every man in the United States ought to read "The Plough, the Loom and the Anvil."

MAKK R. COCKRILL.

The terms of subscription to The Plough, the Loom, and the Anvil, are—in advance for two subscribers, or for two years, \$5; for one subscriber \$3 a year; or \$10 will pay for six years, or for five subscribers for one year. The next July number will be the first of the next volume. Address J. S. SKINNER,

70 Walnut street, at his cost and risk.

Poultry Books.

THE American Poulterer's Companion, by C. N. BEMENT—price \$1.

The American Poultry Yard, by D. J. BROWNE and SAMUEL ALLEN—price \$1.

The American Fowl Breeder, by an Association of Practical Breeders—price 25 cents.

For sale at the office of THE CULTIVATOR.

A Brief Account of the Uncultivated Lands on Long Island, in 1850.

IN answer to numerous inquiries relative to the uncultivated lands on Long Island, and for information concerning them, the attention of the public is directed to the following brief account of their position, natural capabilities, and the facilities they offer the city mechanic, the market gardener, the fruit-grower, the dairyman, and all others who are in quest of a new home.

These lands are mostly in the interior or middle parts of the Island, and probably were at first neglected more from their remote situation, than anything else, being *inland*, as it is commonly expressed by the inhabitants.

In fact, there does not appear to be any other cause for the origin of the discredit in which this portion of the island has long been held, than that it was a few miles from the shores, and therefore not so desirable to the early settlers as the lands bordering on the beautiful bays and harbors that surround them.

Indeed, all the first settlements were made near the shores; for the waters afford great privileges, added to the pleasures and comforts of life, as they abounded with fish and wild fowl in great variety; and which were a means of subsistence to the inhabitants then, as now. There is no other way to account for the strange and singular neglect of the middle regions of this Island. The eastern parts of it are highly cultivated, with a soil by nature no better than that now under consideration; the northern and southern shores, nearly its whole length, have been settled and cultivated, as long as the western part of it; more than two hundred years.

By reference to the old maps of Long Island, it will be seen that the settlements are as above described, and that the middle portion, for about forty miles long, and from six to eight miles broad, are entirely a blank. The Long Island Railroad passes through nearly the centre, from east to west, of this unimproved tract, which commences at Farmingdale, distant thirty-one miles from the city, and extends to Riverhead, about forty miles.

The "Great Hempstead Plains" are nearer the city, being only about sixteen miles distant. There are in this tract about 17,000 acres of the most beautiful land, capable, in every respect, of the highest cultivation, and belongs to the town of Hempstead, in common. It cannot be sold without a popular vote of the inhabitants, a majority of whom have always opposed the sale of it; and it is probably for this reason, alone, that it is at present unimproved; for the soil is equal to any other part of the Island of like extent. It is, in truth, a prairie, and the only one east of the Alleghanies, and was, in the early history of the country, considered as a great curiosity, and as such, was visited by great numbers of people from the different colonies, and by the early European travelers, but was not then regarded as barren.

It was more than one hundred years ago that Long Island obtained its distinctive appellation of the "Garden of America," and was then considered as highly fertile and productive, and described as such by all those who wrote anything about it previous to the Revolutionary War. Had the middle parts of the Island, along the borders of the railroad, been cultivated as the other parts, the lands there would now present the same appearance that those under cultivation now do.

Long Island was, in the early history of the country, regarded as highly fertile, as will appear by the following extract from the Annual Report of the American Institute, to the Legislature of the State of New York, for the year 1847, from page 688. "A work of 1670, proves this a rare and curious book, Denton's History; or a Brief Description of New York, formerly called New Netherland (this has been called one of the gems of American History, being the first printed description, in the English language, of what is now the great, wealthy, and populous State of New York.) Long Island is not spoken of in this, nor any subsequent work for a great many years, as being of poor soil * * * it is everywhere spoken of as being exceedingly fruitful, with a pleasant and healthful climate, and beautiful streams and bays, abounding in all kinds of fish and water fowl." The Island was then (1670) settled on the eastern parts of the towns of East and South Hampton, and all the north shore, including the towns of Huntington and Smithtown, and the settlements in the north part of Brookhaven, so that the whole island was at the time of this author well known; for he says, "The Island is most of it very good soyle, and very natural for all sorts of English grain, which they sowe, and have very good increase of, besides all other fruits and herbs common in England.

"The fruits natural to the Island, are mulberries, posimons, grapes, huckleberries, cranberries, great and small plums of several sorts, raspberries and strawberries; of which last is such abundance, in June, that the fields are died red; which the country people perceive, instantly arm themselves with bottles of wine, cream and sugar, and instead of a coat of mail, every one takes a female upon his horse, behind him, and so rushing violently into the fields, and never leave till they have disrobed them of their red colours, and turned them into the old habit. The greatest part of the Island is very full of timber, as oaks, white and red, walnut trees, chestnut trees, which yield stores of mast for swine; also maples, cedars, saxifrage, beach, birch, holly, hazel, with many sorts more."

Then follows the enumeration of a variety of herbs and flowers which the country naturally affords, "Yea, in May you shall see the woods and fields so curiously bedecked with roses and an innumerable multitude of delightful flowers, not only pleasing to the eye, but to the smell, that you may behold Nature contending with Art, and striving to equal, if not excel, many gardens in England." Such is the description given of this Island by all the early writers.

The Hon. Gabriel Furman, in a very able and interesting address, delivered at Jamaica, October 10th, 1844, before the Queens County Agricultural Society, says the first printed history of New Netherland, published by Vaudermonde, at Antwerp, in 1650, gives a similar description of the fertility of Long Island.

The streams of the Island are numerous and of remarkable clear-

ness and purity. The old author above (Denton,) says of the "Rivers and Riverets which empty themselves into the Sea; yea, you shall scarce travel a mile, but you shall meet with one of them whose Chrystal streams run so swift, that they purge themselves of such stinking mud and filth, which the standing or low-paced streams of most brooks and rivers westward of this colony leave lying, and are by the Sun's exhalation dissipated, the air corrupted, and many fevers and other distempers occasioned, not incident to this Island."

All this part of the Island is covered with rank and vigorous growth of vegetation, and has probably produced a crop of wood, pine, and oak, fit for the New York market, every 18 or 20 years, for the last 100 or 150 years, besides having been burnt over a great number of times during the above-named periods. From this fact alone, may be seen its productive power; for any land that will produce wood, and the various kinds of vegetation that this land produces, must be capable of cultivation to the highest degree; and there can be facts enough adduced to prove beyond a doubt that this is true of almost all that part of Long Island now uncultivated and wild, along the borders of the railroad. There never has been an attempt made to cultivate any portion of it that has failed; in every instance where it has been fairly tried, it has succeeded. There are now many farms and gardens, highly productive and fertile, that were a few years since reclaimed from the same kind of land.

It is the opinion of the best agriculturists of the state of New York, and other men of high intelligence and practical skill and knowledge of agriculture, who have examined these lands, that there is no reason why they cannot be cultivated by ordinary means, and rendered as productive and as valuable as any other lands on the Island.

Among those who have seen these lands, and expressed opinions favorable to their cultivation, is Judge Meigs, of the American Institute. He says that "Long Island contains all those materials, calcareous and others, necessary for high and profitable cultivation, and that these lands, for the various productions of the garden, field, and orchard, are very highly adapted, and also for the vine and silk mulberry."

Dr. Underhill, celebrated for his cultivation of the grape, at Croton Point, has examined this portion of Long Island, and says, "there can be no doubt that all these lands can be rendered highly productive and fertile without any difficulty, and by the same means that will cultivate and enrich any other land." He further says, he is "willing to stake what reputation he has as an agriculturist, that these lands are susceptible of most profitable cultivation for the vine, the peach, the apple, and other orchard fruits, and the usual productions of the garden and field."

Professor Renwick, of Columbia College, says, "those portions of the soil from Hempstead Plains, have been analyzed in his laboratory (in Columbia College,) and were found to partake of all the constituents of a fertile soil, in large proportions, and only require the application of quicklime and other decomposing substances to render them fit for the process of cultivation;" and says of the scrub-oak lands, "that it is a fact, that in many parts of the country those lands called 'oak barrens,' and neglected for a time, have been found to be the best wheat lands, and these lands of Long Island may prove of the same character."

Professor Mapes is also of opinion that these lands may be easily cultivated.

The late T. B. Wakeman, Esq., and General Chandler of the American Institute, have given opinions, after having examined these lands, favorable to their successful and profitable cultivation.

Charles Henry Hall, Esq., whose skill and judgment are undoubted, in all matters relating to agriculture, expresses his entire belief in the feasibility of rendering these lands eminently productive; that the climate and soil of Long Island are favorable to a high degree of perfection to all kinds of fruits and plants that grow or can be raised in this latitude.

A. B. Allen, Esq., editor of the American Agriculturist, says there is no doubt that these lands can be successfully cultivated, and Mr. Allen's opinion on the subject of clearing it of roots, or of breaking it up and rendering it fit for the plow and hoe, is deserving of very great consideration.

One great objection urged by the people of the Island against any attempt to clear and cultivate the part of it under consideration, is the great difficulty and expense in clearing the land of the growth of bushes, which, as commonly done by hand, by means of a large hoe, or mattock, and costs too much. Mr. Allen thinks that it can be broken up by the plow for about three or four dollars per acre, and he has had great experience in all matters pertaining to the clearing of new land. It is now found by experience that crops can be put in these lands by the harrow, and thus cleared at even less than by plowing.

Evidence of this kind can be adduced to almost any extent, and there are no facts that can be brought against it, and all the opinions to the contrary are founded upon ignorance and prejudice.

Samuel A. Smith, Esq., of Smithtown, in an address before the Suffolk County Agricultural Society, at Commac, in the fall of 1846, said of these lands, "that they had always considered them only fit for deer to roam over, and foxes to dig holes in, and they knew no other reason for such opinions than that their fathers had told them so"—that they never had made any attempts to cultivate these lands, and therefore did not know from any fact that they were unfit for cultivation.

The situation of these lands is extremely favorable, and even desirable. The Long Island Railroad passes directly through the uncultivated parts of the Island—thereby affording easy and certain access during the whole year, having, in this respect, a great advantage over even those places on the coast or bays that are esteemed the most valuable—for, by the railroad, the market can be reached at all seasons and at all times, without reference to wind and tide and unobstructed by ice, as the bays and harbors are for three months in a year.

The surface of this part of the island is varied, or gently undula-

ting, with a southern aspect, having a descent of from twelve to twenty feet to the mile, from the ridge of hills about one mile north of the railroad, to the shores of the great South Bay, a distance of five or six miles.

The summit level of the railroad, at Hicksville, is 142 feet above tide water, and at Lake-Road Station, 48 miles from the South Ferry of New York, it is 90 feet—it will therefore be seen that the surface is not a "dead level—a great dreary plain," but sufficiently varied.

In passing through on the railroad, the appearance from the cars is altogether unfavorable, and the impression left on the mind, to an ordinary observer, is erroneous. The excavations for the road are, in most cases, so deep as to go below the upper stratum of the earth, or the proper covering of the Island, and into the sand and gravel, of which it is everywhere composed below the surface. Hence the appearance of sand and coarse gravel, that is seen on the borders of the railroad.

This fact can be easily ascertained by any one who doubts it, by digging through the surface stratum anywhere in the vicinity of the village of Jamaica, or in those finely cultivated fields along the railroad, either east or west of that place, a very few feet, say from one and a half to two and a half feet deep, will turn up the same kind of sand and gravel as seen along the road to the east of Hicksville and Farmingdale.

The whole prospect from the road after leaving the last above-mentioned place, is barren and desolate, and without a careful examination and knowledge of the facts herein stated, the conclusion would be that the land was in itself necessarily sterile and barren; for, in addition to the sandy and gravelly appearance, the absence of the trees, and in much of the distance, a stunted vegetation, or in some places none at all, on the immediate borders of the railroad, seem to confirm the opinion that it is as sandy and barren as it has ever been represented.

The explanation of this may be found, first in the fact that the uneven and irregular growth of wood or trees being of different heights or sizes, some very small and scattered, whilst others are larger, and which is in consequence of the time or period that has elapsed since the land was cut over. On some places the growth is one year old, on others two, five, seven, ten, &c. Besides having been cut over, it often happens that it is burnt over, which always has a tendency to kill the timber and wood, and destroy vegetation. Nearly all the great region of wood and wild land through which the railroad passes, has been burnt over two or three times in five years. The first fire after the opening of the road was tremendous—terrific. At one time it lasted nearly two weeks, and seemed as though it would consume the whole Island. There was a great amount of combustible matter on the ground and in the woods, and the earth was exceedingly dry, and the effect of the fire was in the highest degree scathing—consuming almost every particle of vegetable matter on the surface of the earth. For miles in extent, nothing could be seen but the smooth and blackened surface, and the charred bodies of such trees as had escaped destruction. The fire happened in the month of April, and the land over which it had passed looked like a furnace that had suddenly been extinguished, as black and desolate as fire could make it.

Yet as soon as the sun and showers of spring and summer came, the whole was again clothed with verdure—vegetation could be seen there, literally "bursting into life." It was truly astonishing to see with what vigor, power, and rapidity the leaves and plants, and flowers sprung forth to deck the earth again in green.

The writer of this well remembers with what interest he watched the returning signs of life in the vegetable kingdom there, and the great impression that its return so speedily, so luxuriantly and so powerfully made on his mind—how soon the restoring energies of nature were brought into action to repair the injury that had been done to the earth's surface.

There is on each side of the railroad, distant about twenty rods, and running parallel with it, what is termed a *fire road*. It is a cleared path, about twenty feet wide, which has been cleared of all the bushes and roots, by grubbing. The object of this "fire road," or path, is to prevent the fire from crossing over it, and passing into the woods, in case of the combustible materials along the road taking fire from the sparks from the engine. The space between the railroad and these fire roads is burnt over every spring and fall, with a view to kill and destroy all vegetation, and all vegetable matter on it, in order to prevent the recurrence of fires; and this fully accounts for the extreme barren appearance along the borders of the road.

The forest productions of this part of the Island are such as to convince the most skeptical that the soil is capable of yielding, when cultivated like other parts of the Island, in the same abundance. Immediately on the plains along the borders of the railroad the trees are chiefly pine, with a thick and vigorous growth of underwood or bushes, such as scrub oak, whortleberry, vines and grasses.

A little to the north, are found the chestnut, hickories, the varieties of the oak, as white, black, or yellow oak, black walnut and locusts—all of which exhibit the most vigorous and thrifty growth. Indeed, so rapidly do trees grow on this part of Long Island, that about 18 years are considered sufficient to produce a crop of wood suitable to cut into cord wood for the New-York market, and there is no part of this state, (New-York,) where timber will grow so fast as on Long Island. If the soil were barren and destitute of the supporters of vegetation this certainly would not be the case. It may be here remarked that the locust, now so abundant in many parts of the Island, and so valuable as timber, is not a native, but was brought from Virginia, or from further south, by one of the Sands family, who settled near Sands' Point in about the year 1660. Mr. Sands was a seafaring man, and traded between the West Indies, the southern colonies, and New-York.

The whole region of the Island, now in waste and wild, might be very easily transformed into a beautiful forest of locust, hickory or oak, to great advantage and profit compared with its present

condition. This growth of forest trees is evidence that fruit trees can be successfully cultivated; and this opinion is sustained by the facts of the case; for whenever any attempts have been made, and proper care and attention bestowed, the most complete success has followed. The nurseries of Flushing have long been celebrated for their extensive and choice varieties of fruits. Peaches have been successfully raised on almost every part of Long Island, notwithstanding opinions have been advanced to the contrary. There were peaches of the largest size and finest flavor raised at Huntington, and exhibited at the agricultural Fair at Commac, in the fall of 1846.

The Rev. J. Pillsbury, (now of Illinois,) cultivated successfully, a fine variety of fruit, including peaches, at Smithtown, Long Island, a few years since.

The peach orchard of Mr. John J. Stoothoff, at Jamaica, is such as to encourage others on the Island to cultivate this delicious fruit. For a particular account of this beautiful and flourishing peach orchard, and its productions, see the American Agriculturist, Feb. No., 1848. It will be sufficient to say, the year being the second of bearing, the orchard, containing about 2,500 trees, yielded about 2,637 baskets, worth \$2,600. The whole product from 27 acres of land was 3,646. Peas and potatoes were cultivated between the rows of peach trees, and asparagus in some parts of the land. The soil upon which this orchard is planted is as much like the soil of these uncultivated lands, as it can be; and it is impossible to discover any difference in viewing it, and it is not probable, that a careful analysis would show any difference.

A few remarks on some of the privileges which the surrounding bays and waters afford, may not be uninteresting. They are not more than three, four or five miles distant from almost any part of these lands; and in these waters are found various kinds of fish and wild fowl for the sportsman. In the streams that flow from the Island, the waters are remarkable for their purity, and for being but little affected with drought. These streams are full of trout of large size and fine flavor.

The Long Island Railroad is to be the great means of changing this great wilderness from its present wild and waste condition to the habitation of man, to convert it into gardens and cultivated fields. The railroad now brings this part of the Island almost within the sound of the city bells, and affords constant and regular means of access at all seasons of the year, thereby enabling those who will now take up and settle these lands, to have the benefits of the New-York and Brooklyn markets, with as much ease and economy as the inhabitants of the western part of Queens county have formerly had. It is to the interest and welfare of the whole Island to have these lands settled and cultivated—it will add greatly to its wealth and population. To the railroad, it will be of essential service and benefit; it is a plain matter of fact, that every settlement made on the borders of the railroad must necessarily furnish a certain amount of business and travel for the road.

Lake Road, or Irvington, is one of the most beautiful sites of the inland parts of the Island. The soil there is of superior depth and quality, well adapted to the cultivation of all kinds of fruit, such as pears, peaches, grapes, and apples; and grain, as wheat, corn, rye, oats, buckwheat, as well as for every variety of vegetables raised on any part of the Island.

The whole glebe, or tract of land to the south of Ronkonkoma Lake, and to the east of Cometquot River, is the very best of all the uncultivated land on Long Island, and when cultivated, will be equal in quality and value to any land, and the situation is extremely desirable for settlement and residence. The wood or timber on this tract is oak, hickory, chestnut, locust and pine; and it may be here stated that similar land a little to the north or south of this tract is valued at and sold for \$50 to \$100 per acre, whilst this tract is offered at the very low price of \$10 per acre—or from \$10 to \$20, according to location—a large part of the purchase money of which may remain at 6 per cent. interest for a term of years, if desired by the purchaser. The title is as good as can be to any land in the State of New-York.

Lake-Road Station is the Half-Way House, between Brooklyn and Greenport, and the most central and important depot on the Long Island Railroad, for freight and passengers, being the terminus of a morning and evening train of cars, for the accommodation of the morning and evening travel between Lake Road Depot and New-York.

EDGAR F. PECK,
306 State st., Brooklyn, N. Y.

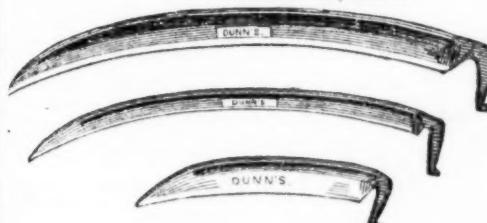
The Norman Horse.

THIS Thoroughbred Stallion will stand for mares the present season, on Tuesdays, Wednesdays and Thursdays, at Union Springs, Cayuga County; on Fridays at Canoga, and Saturdays at Bearytown, in Seneca County. Pasture 3 shillings per week. Mares at the risk of the owner.

ROBERT B. HOWLAND.

Union Springs, June 1, 1850.—2t.

Dunn's Scythes.



GRASS
Gram, &
other scythes
from the cele-
brated Nor. Wayne
Seythe Co.,
late R. B.
Dunn's.

Having sold
these scythes
for several
years with uniform good success—not one in a hundred having failed and been returned—he does not hesitate to recommend them as equal if not the best in use.

H. L. EMERY,

years with uniform good success—not one in a hundred having failed and been returned—he does not hesitate to recommend them as equal if not the best in use. For sale by H. L. EMERY,

Importation and Sale of Stock.

MR. L. G. MORRIS, of Mount Fordham, Westchester County, N. Y., left New-York on the 17th April, for Europe. One of his main objects is to obtain agricultural information generally, and especially to purchase such domestic animals as are calculated to improve the stock of the United States. He purposes to attend the sale of the Short-horn cattle belonging to the estate of the late THOMAS BATES, Esq., of Kirkleavington, Yorkshire; but will not confine his purchases to that herd. He expects to return to America in September next, and the second annual sale of cattle from his own herd, will take place in October. Whatever stock he may import, will be at his place at the time of sale. Printed catalogues of the animals to be sold, will be issued in due time.

June 1, 1850—4t.

No Humbug.

THE undersigned, after 20 years' experience and much research, has discovered a cheap chemical compound, easily applied, which completely prevents the ravages of the Bee-moth, and which can be adapted to each and every kind of hive, whether patent or otherwise. This discovery he will impart to any individual on the receipt of one dollar. It being understood the purchaser shall hold himself honorably pledged, not to impart the information to others. The whole contained in a circular, to which is added several valuable suggestions in the construction of hives and management of bees, worth more than any patent hive in existence.

Address, post paid, SETH WHALEN,
May 1, 1850—3t * Ballston Spa, N. Y.

Kinderhook Wool Depot.

THIS enterprise will be continued upon the same principles as heretofore, viz:

The FLEECES will be thrown into sorts, according to style and quality.

A discrimination will be made between wool in good or bad condition.

All who desire it can have their clips kept separate.

Sales will invariably be made for cash.

The charges will be, for receiving, sorting and selling, one cent per pound, and the insurance, which will be 25 cents on \$100 for a term of three months.

Liberal advances in cash, made on the usual terms.

Reference can be had to

Dr. J. P. BEEKMAN, Kinderhook.

B. P. JOHNSON, Albany.

T. W. OLCOIT, "

R. H. KING, "

Messrs. FREELAND, STUART & Co., N. Y. City.

Messrs. M. D. WELLMAN & CO., Massillon, O.

R. CARTER, Chicago, Ill.

Messrs. OGDEN & JONES, Chicago, Ill.

JOHN F. GILKEY, Kalamazoo, Mich.

SAMUEL PATTERSON, Washington Co., Pa.

R. A. ALLEN, Liberty, Bedford Co., Va.

DIRECTIONS FOR SHIPPING.—Sacks should be marked, "H. BLANCHARD & Co., Kinderhook, N. Y." The connections between the various transportation lines are so regular, that in ordinary cases, contracts can be made for shipping to East Albany, (opposite Albany,) if sent by the Northern route; and T. L. Green, agent for the Railroad at that place, will forward to Kinderhook. If sent by the Southern route, contracts can be made to New-York, and J. H. REDFIELD & CO., corner of Broad and South Sts., agents of the Swiftsure line of Tow-Boats, will forward to East Albany. The initials of the owner's name should be upon each sack, and an invoice forwarded to us at the time of shipment, stating the number and weight of each bale; also contract prices for shipping, if any are agreed upon.

June 1—2t.

Trees! Trees!! Trees!!!

FOR SALE, at Mount Ida Nursery, Troy, N. Y., a choice variety of Fruit Trees, comprising Apples, Pears, Peaches, Plums, and Cherries, of the most approved kinds—the greater part of them worked from bearing trees, and all of them by the subscriber—therefore he can recommend them with confidence. He would also say to those that have not had the experience, that trees brought from the South (if they do live) do not grow as thrifty for a number of years, as those raised in a Northern latitude, which many persons can prove from experience. He also pays particular attention to the transplanting of his trees so as to have them well rooted.

Also, a good variety of Shade Trees, consisting of Scotch Elm, Sycamore, Linden, Horse Chestnut, Mountain Ash, Evergreen Privet for Hedges, China and Hardy Roses, &c., &c.

Catalogues and other information can be had of the Nurseryman, Feb. 1—6ms.

JOSEPH CALDWELL

The Old Gifford Morgan,

THE highest blooded Morgan Stallion now remaining, will stand the coming season at the stable of Benjamin Gates, in Walpole, N. H. Terms \$25. \$5 of which to be paid at the time of service, and the remaining \$20 if the mare prove in foal.

Pasturage furnished on reasonable terms. A. ARNOLD, Walpole, May 1—5t.* Agent for the Proprietors.

Colman's European Agriculture.

EUROPEAN AGRICULTURE, from personal observation, by HENRY COLMAN of Massachusetts. Two large octavo vols.—price, neatly bound, the same as published in Nos., \$5. For sale at the office of THE CULTIVATOR.

Circular.

THE subscribers are making and vending J. W. SHERMAN'S

New Seed Drill and Broadcast Sower,

Constructed upon a new principle; cheaper, simpler, and more durable and accurate, than any similar machine now in use.

We are building three different qualities of these machines. No 1, is a superior Drill and Broadcast Sower, and will sow fine Manure (such as Plaster, Ashes, Guano, &c.,) Broadcast, or in the drill rows, any desirable quantity per acre, at the same time of drilling in the grain. It is well finished, substantially made, of good material, and warranted—at the low price of \$65.

No. 2, is built for drilling all kinds of grain. It will also sow fine manure, broadcast, on crops. Price \$55.

No. 3, is a plain Wheat Drill; simple, accurate, substantial. Price \$45. None of our machines will clog in the runs; they cannot do so with the most difficult kind of seed; THE DISTRIBUTING PRINCIPLE BEING ENTIRELY NEW.

We are prepared to supply all orders. Those wishing to purchase drills, would do well to see ours before purchasing elsewhere. The sooner the order is given, the more sure you will be of getting your Drill in time.

N. B.—Persons wishing to make or sell our Drills, are offered a good chance.

A large descriptive bill will soon be issued with cuts. All communications or inquiries [post paid,] will receive prompt attention. Address Sherman, Foster & Co., Palmyra, Wayne county, N. Y. Those wishing it, can see the machines at Foster, Jessup & Co's Machine shop, Palmyra; where they will also find the best Thresher and Separator, Revolving Horse-rake, (spring teeth,) wheel Cultivators, and other agricultural implements; warranted superior. Call and see.

Mr. SHERMAN is agent for the sale of McCormick's Virginia Reaper.

Palmyra, June 1, 1850—2t.

Agricultural Warehouse and Seed Store.

No. 197 Water street, (near Fulton,) New-York.

THE subscribers would respectfully invite the attention of planters and dealers in Agricultural and Horticultural Implements. Garden and Field Seeds, &c., &c., to their large and varied assortment of Garden and Field tools, &c., which they are selling at the very lowest rates that they can be procured in the United States. Persons living at a distance can obtain an "illustrated" Catalogue, containing a list of prices, on application by letter, post-paid. Those ordering from us may depend upon their orders being promptly filled.

May 1, 1850—tf.

JOHN MAYHER & CO.,

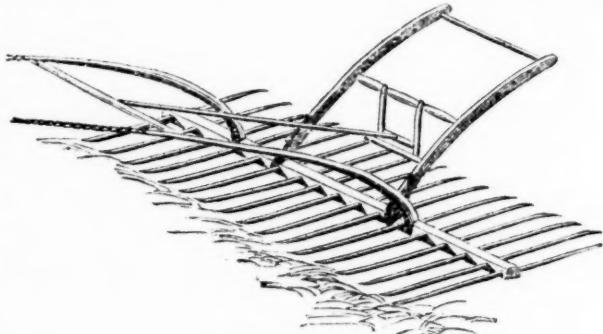
Grain Cradles,

WITH Dunn's Scythes, the best known. These cradles are from the most celebrated makers known, and so constructed that they are readily packed in dozens, and if necessary, boxed up for transportation—6 dozen can be easily packed in the space usually required for a single cradle. For dealers, or farmers at a distance, this is found a great convenience, as safety and cheap transportation are secured. They are offered to the trade on as liberal terms as by any other manufacturer or dealer.

Albany Agricultural Warehouse of

H. L. EMERY,

369 & 371 Broadway, Albany.

**Horse Rakes.**

WILCOX, Downers, and other approved Revolving Horse Rakes, light, strong and durable. Several hundreds were sold the past season, with fullest satisfaction to the purchasers. Dealers in the article can be supplied on liberal terms.

FENCE WIRE. All sizes and qualities, suitable for fences, for sale low.

CULTIVATORS, and Double Mould Board Plows, of various sizes, for cultivating and hillling Corn, Potatoes, &c.

Albany Agricultural Warehouse,

Nos. 369 & 371 Broadway.

H. L. EMERY.

June 1, 1850.

John A. Pitts,

*Manufacturer of THRESHING MACHINES and DOUBLE PINION HORSE POWERS, 68 South St. Paul Street,
Rochester, N. Y.*

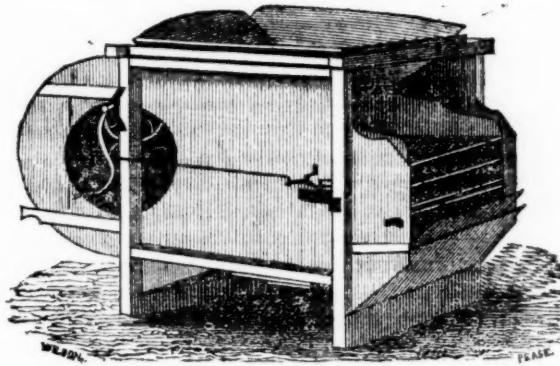
THE subscriber continues the manufacture of the celebrated "Pitt's Separator." It is the same machine that has stood, and now stands unrivaled by any machine for Threshing and Cleaning Grain, in existence. It has been exhibited at State and County Agricultural Fairs, in the United States and Canada,—always receiving the *First Premium*.

The Horse Power, for strength, ease, durability, and cheapness of repair, is unequalled. The driving wheel is six feet in diameter, driving two full pinions, each receiving equal power; 2 bevel wheels, driven by the full pinions, connect with two pinions, on the line shaft; thus it will be seen, this Horse Power is double the strength of any single geared Power. It may be driven with from two to ten horses, depending upon the power required.

The Machines have fully sustained all I claim for them; I therefore solicit orders from those who would secure the best Threshing Machine and Horse Power.

Please address as above.
Rochester, May 1, 1850—3t.

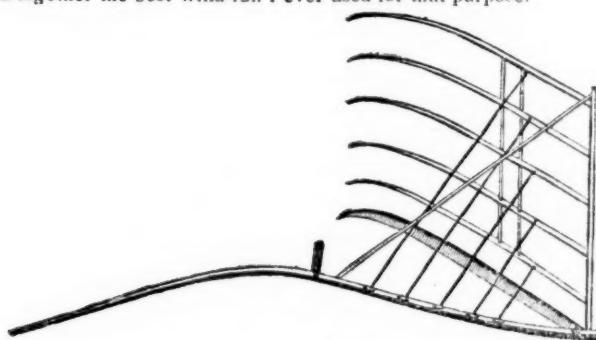
JOHN A. PITTS.

**I. T. GRANT & CO.'S**

PATENT FAN MILLS AND CRADLES. We continue to manufacture these celebrated Mills and Cradles.

They have been awarded six first premiums at the New-York State Fairs, and at the great American Institute in New York, and several County Fairs, always taking the first premium over all other mills. The manufacturers feel confident, therefore, in offering these mills to the public, that they are the best in use. During the year 1847 they were introduced into England, by Mr. Slocum, of Syracuse. They were very favorably noticed by the English papers; and from a communication of Mr. S.'s, published in the Transactions of the N. Y. State Ag. Society, for 1847, it will be seen that they were tried by several large farmers, and highly approved. One farmer, it is stated, set aside an almost new winnowing machine, for which he paid £18, (\$80) and used Grant's for cleaning a crop of 300 qrs. (2,700 bushels) of wheat, and several hundred bushels of mustard seed. We have lately made some valuable improvements in the article, though the price remains the same as before.

Our fans are extensively used and highly approved at the south, for cleaning rice. We are permitted to make the following extracts from letters received from Hon. J. R. Poinsett, of South Carolina:—"The fan you sent last summer, [1848] has been successfully used to clean dirty rice, and winnow that from the threshing floor. It answers every purpose." In relation to another of our fans, he writes, (April 23, '49.)—"Both this and the first mill you sent, work very well; and the last, which is the largest that can be well worked by a man, cleans the dirty rice perfectly, and is altogether the best wind-fan I ever used for that purpose."



Our Cradles have taken the first premiums at two New York State Fairs, and are considered the best in use.

The great encouragement we have received from dealers and agriculturists, has induced us to greatly enlarge our business, and we hope by strict attention, to merit a further patronage.

Orders will be thankfully received, and receive prompt attention.

I. T. GRANT & CO.
Junction P. O., Rens. Co., 8 miles north of Troy
May 1, 1850—3t.

10,000 Acres of Long Island Land for Sale,

At Lake Road Station, or Irvington.

THE undersigned is, and has been for several years, engaged in the improvement and cultivation of the wild lands of Long Island. The fact being now fully established, beyond any doubt, that the land in the middle parts of the Island, along the borders of the L. I. Railroad, is as good and productive, when cultivated in the same manner, as any other part of Long Island. 10,000 acres are now offered for sale, in parcels to suit purchasers, from 10 acres, to 100, or 1,000, at a very low price, and on favorable terms. This tract is near the geographical centre of the Island, being about equi distant from Long Island Sound, and the Great South Bay, (the Island being about 13 miles wide there,) and 48 miles from New-York.

There are many highly cultivated farms in the immediate vicinity, on the north and south side of this land,—having been settled and cultivated more than 150 years. It is well watered, being bounded on the north by the famous Ronkonkoma Lake—has also a large and never failing stream running through it. The lake and stream are full of fish—perch in the lake, and trout, in great abundance and of large size, in the stream. The country abounds in game, deer, and wild fowl.

The climate is mild and perfectly healthy, the surface is smooth, gently undulating, with an inclination to the south of about 15 feet to the mile—the soil—free from stone, easy and pleasant to cultivate—is a loam, large portions of which may be called a heavy loam, or it is of sufficient tenacity to make sun-burnt brick, right out of the surface—is from 18 inches to 3 and 5 feet deep, and is susceptible of the highest degree of cultivation. The railroad passes through this tract, affording easy and constant communication with the Brooklyn and New-York markets, where the highest price in cash, can always be had for every article that the farmer and gardener can produce. To capitalists, an excellent opportunity is here presented to obtain a large tract of valuable land at a low price, possessing all the advantages for settlement of a new country, without any of the privations—but with all the privileges and comforts of an old one. Apply to **A. B. ALLEN, Esq., Editor of the American Agriculturist, 187 Water Street, New-York, or to E. F. PECK,**

306 State Street, Brooklyn, L. I.
Lake Road is an important and central depot on the Railroad—there are large buildings and a settlement there.
May 1, 1850—3t.

Great Sale of Short Horn Cattle.

THE subscriber will offer for sale, without reserve, at public auction, on Thursday, the 29th day of August next, at 1 o'clock, P. M., on the farm of J. F. Sheafe, Esq., at New Hamburg, Dutchess Co., New York, about 35 head of Short horn cattle, including cows, heifers and calves.

This herd was mostly bred by Mr. Sheafe, and I do not hesitate to say, that I think it *one of the very best* in the United States; and I have seen and particularly examined nearly all of them. Great attention was paid in the commencement of this herd, to the milking properties of the animals forming it; and this, together with fine points and good growth and constitution, have been steadily kept in view in its breeding. There is but one cow in the herd which gives less than 20 quarts per day, in the best of the milking season, while one has given over 29 quarts per day, and made 15 pounds 3 ounces of butter per week, and two others have given respectively, 31 and 36 quarts per day. Their color is of the most fashionable and desirable kind—red, red-and-white and a rich strawberry roan—only one white cow in the lot. They are of good size and fine style, and all in calf to the superb imported bull Exeter, who will also be offered for sale at the same time.

Pedigree of Exeter.—Exeter is of the Princess tribe of Short horns—was calved in June, 1848, and bred by Mr. John Stephenson, of Wolviston, Durham, England. He was got by Napier, (6,238) out of Jessamine, by Commodore, (3,452)—Flora, by Belvidere, (1,706)—Jessey, by Belvidere, (1,706)—Cherry by Waterloo, (2,816) &c. See English Herd Book, Vol. V., for full pedigree.

Exeter was selected for Mr. Sheafe, by a first rate judge of Short horn stock, and was considered one of the *very best bulls* in England. Quite a high price was paid for him; and it is believed that his superior, if even his equal, has never before been imported into this country. He carries an enormous brisket for his age, and his style, handling, and quality are of the finest kind. His color is mostly a beautiful yellow red, which is a bright red with a fine golden or saffron undertinge, rising from a rich yellow skin. He is the *only bull of this peculiarly desirable red*, ever imported into America. Calves got by him, out of this herd of cows, will fetch a high price the moment they are dropped.

Mr. Stephenson, the breeder of Exeter, now stands at the head of his class in England, and his stock is of the highest repute. It is entirely of the Princess tribe, and traces its pedigrees, without any alloy or Galloway blood, back to pure Shorthorns, for upwards of *two hundred years*; a matter of no small consideration to those who wish a *superior fresh cross*.

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Contents of this Number.

On the Management of the Hay Crop,	225
Poultry and Poultry Books, by OBSERVER,	227
Advantages of Irrigation, by A. B.,	230
On the Acclimation of Tropical Plants, by C. E. G.,	231
Things Necessary to the Successful Pursuit of Agriculture, by H. C. W.	233
Neglected Manures, &c., by Professor J. P. NORTON,	234
Notes on Gardens and Nurseries in the Vicinity of Boston,	235
On the Management of Orchards,	236
Profits of Fruit Culture—Notes from "The Horticulturist,"	237
Native Flowers and Layers, by D. T.—Fruits of Central Illinois, &c.	239
Trial of Plows at Albany—Mr. Sherwood's 3d Duke of Cambridge,	241
Profits of Different Breeds of Sheep, by A SHEEP MAN,	242
Geddes' Harrow—The Table Land of Thibet—A Mechanic's House, by W. L. EATON—Chicory or Succory,	243
The Best Time for Cutting Timber—Strength of Wire—Good and Bad Management,	244
Dairying in St. Lawrence County, by G. A. HANCHETT—Height of Corn, by C. E. G.—Sale of the Bates Short-horns—Farming in Rhode Island—The Cheese Trade,	245
Water-Lime, &c., by J. A. CHENEY—Rotation of Crops—To Plow in Clover, Weeds, &c.—Saving Clover Seed, by A SUBSCRIBER—Harvesting Grain, by L. DURAND,	246
To make Preserves and Jellies—Answers to Correspondents, Facts and Opinions on Various Subjects,	247
Acknowledgments—Monthly Notices, &c.,	248

ILLUSTRATIONS.

Fig. 173—Hay-spreader,	226
174, 175—Jungle Fowls,	228
76—Great Malay Fowl,	229
177—Game Fowl,	229
178—Portrait of 3d Duke of Cambridge,	240
179—Geddes' Folding Harrow,	243
180—Plan of a Mechanic's House,	243

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